

MODERN



LITHOGRAPHY

ACKOUT YOUR BEACON



DON'T GIVE US AWAY

THAT THEY
SHALL NOT PERISH

A
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T



LITERATURE

ARCHITECTURE

MUSIC

BUY
UNITED STATES
DEFENSE
SAVINGS BONDS

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APR 1-1942
DETROIT

MARCH • 1942 • VOL. 10 • NO. 3

Fast Orange 247 P

Senelith Inks

were the first lithographic inks
made from dyestuffs
treated with sodium tungstate
for better sunfastness
and are still leading
with their outstanding resistance properties

The Senefelder Company, Inc.

"Everything for Lithography"

32-34 Greene Street

New York, N. Y.

Jiffy—THE ACCEPTED STANDARD FOR COMPARISON!

The most imitated but unequaled
Developing Ink yet formulated.



←For Surface Plates

Jiffy comes packed in four-quart cans to a container at the minimum, or gallon price, in convenient hand-fitting POUR'N SEAL cans which eliminates waste.

For Deep Etch→

Jiffy is made with a smooth, heavy-bodied, highly etch-resisting quality. Its clean, sharp developing action eliminates all hazards of Smudging or Feathering even the finest half-tone dot.



When ordering **Jiffy** for Deep Etch be sure to specify
"HEAVY Jiffy" or "DEEP ETCH Jiffy"

Sold by all our Dealers

LITHO CHEMICAL & SUPPLY CO.

63 PARK ROW
NEW YORK, N. Y.

WHAT 5¢ CAN MEAN TO YOUR FUTURE

ALUMINUM,
DEFENSE,
AND YOU

THE JOB
IS
BEING
DONE

HOW MUCH ALUMINUM we are making now is a censored secret. We are determined it shall be sufficient to the need.

HOW MUCH WILL BE AVAILABLE, after the war, is idle talk now.

THE PRICE OF ALUMINUM is the thing that's important. It is important to the war, because our reduction of the price of ingot from 20c to 15c is saving the Government many millions of dollars a year.

THAT FIVE CENTS doesn't make aluminum one whit more useful for war purposes—only more patriotic.

BUT IT DOES MAKE aluminum terribly important to the peace. Real peace means jobs for all. Jobs-for-all come into being only when people *want to buy* and *can buy*: Which means new things, better things, at a price.

IMAGINEERING is the word we have coined to describe the thinking which is used to get those new things ready. Imagineering is letting your imagination soar and then engineering it down to earth. Imagineering needs tools as well as brains.

THAT FIVE CENTS we've lopped off the price of aluminum, so far, has more potentialities of creating new things and better things, at a price, than any single thing we know of.

THAT'S WHERE YOU COME IN. You are the man *who*. You are the man America is counting on to make the jobs Americans are going to need. You are the man who is going to do the *Imagineering*, in your specialty, that is going to win the place for yourself, your employees, your associates.

YOU ARE GOING TO DO IT, and we hope you are going to let Alcoa help. We can, and we want to.

Aluminum Company of America, 2116 Gulf Building,
Pittsburgh, Pennsylvania.

ALCOA ALUMINUM



MODERN LITHOGRAPHY

PUBLISHED IN THE INTERESTS OF LITHOGRAPHERS EVERYWHERE



THE COVER

Examples of poster art now
on view at the American-
British Art Center, New York.

March, 1942
Volume 10 No. 3

THE ONE THING LITHOGRAPHERS like to stress with pride when asked by a layman what is the difference between lithography and letter-press is that lithography is a chemical process, whereas letter-press is a mechanical process. It has always struck us, with all their pride in this wonderful thing, chemistry, how little the average lithographer knows about it. Indeed, by his very pride he betrays the average person's awe and wonder before a mysterious and occult science. Well, the long and short of it is that one of our contributors has persuaded us to set the lithographer to rights about chemistry and write about it, and its place in lithography. His article begins in this issue. (Page 20)

THERE WILL BE NO MORE DISPLAY advertising until the war is over. Display advertising will become increasingly popular during the war. First you hear the one, then you hear the other. We don't know. But we do know that with all the conservation and restriction of materials going on it is mighty important that the lithographer acquaint himself with a few fundamental rules about die cutting and mounting so that he can produce displays with a minimum of waste and inefficiency. (Page 23)

THE BAREFOOT PRINTER. NOW HE wears spats. Who is it? Eney, meeney, miney, mo, where will you go on March 26? (Page 26)

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MODERN LITHOGRAPHY
Reg. U. S. Pat. Office

GRANT A. DORLAND, President; IRA P. MACNAIR, Vice-President; WAYNE E. DORLAND, Secretary-Treasurer. RICHARD ROLEY, Editor. Published monthly on the 15th by The Photo-Lithographer, Inc., Publication Office, 3201 Arch St., Philadelphia, Pa. Advertising and Editorial Office, 254 W. 31st St., New York, N. Y. ADVERTISING RATES: Advertising rates made known on application. Closing date for copy—20th of the month previous to date of issue. SUBSCRIPTION RATES: \$3.00 per year in the United States, \$4.00 per year in Canada. Single copies, 30 cents. Entered as second class matter at the Post Office at Philadelphia, Pa., under the Act of March 3, 1879.

For the Duration of the Emergency



There are times in the history of a nation when every man must subordinate his private hopes and ambitions to the security of the country of which he is a part. No one can doubt the need today for American arms supremacy . . . the urgency of the task before us . . . or the necessity for the fullest cooperation of individual and industry alike in the emergency that confronts us.

We of the Miehle Printing Press and Manufacturing Company have taken our responsibility most seriously. We are manufacturing large quantities of ordnance for the United States Navy and many machine tools so sorely needed by hundreds of other manufacturers anxious and waiting to increase their production of defense materials.

Through early participation in this effort and by virtue of long experience in working to high standards of mechanical excellence, our production is well under way . . . even ahead of schedule in a number of items. And we are naturally proud that Miehle was one of the first fourteen American industrial concerns whose management and men were honored with the U. S. Navy's famous "E" award for "outstanding performance in the production of naval ordnance material for the national defense program."

The extent of our participation in the National Defense



Program has necessitated a considerable reorganization of our staff and equipment. We are not unmindful of our obligation to the many users of Miehle Printing Presses and to the graphic arts in general. Our customer relationships, painstakingly built over many years, are invaluable to our company's present and future . . . probably more valuable than all our physical assets combined. And so, in our plans we have provided for:



1. Repair part and machinist service as usual.
2. The construction of new machines to the maximum extent we are able to procure necessary materials.
3. Continuation of engineering effort to the end that postwar requirements may be met by improved Miehle products.

The extent to which we shall be successful in meeting the needs of the graphic arts industry in these trying times is certain to hinge on many factors beyond our control. We are sure that printers will recognize and appreciate this fact and we are both proud and grateful for the splendid spirit of sympathetic understanding which has already been manifested in this regard.

MIEHLE PRINTING PRESS & MANUFACTURING CO.

Chicago, Illinois

Official U. S. Navy Photograph



Pressmen know that rollers which have lost their tack cause halftones and type forms to **FILL UP**, and make frequent wash-up necessary.

When jobs are figured close, time out for wash-up may be the difference between profit and loss—or even more important, the difference between customer acceptance or rejection of the job.

The right rollers are an economy. They are insurance against bad inking. They are time savers—a necessary contribution to National Defense effort.

There is no need to guess about rollers. **BINGHAM ROLLERS** are a standard of quality. There is a **BINGHAM** representative near you. Write or telephone on any roller problem.

SAM'L BINGHAM'S SON MFG. CO.

CHICAGO

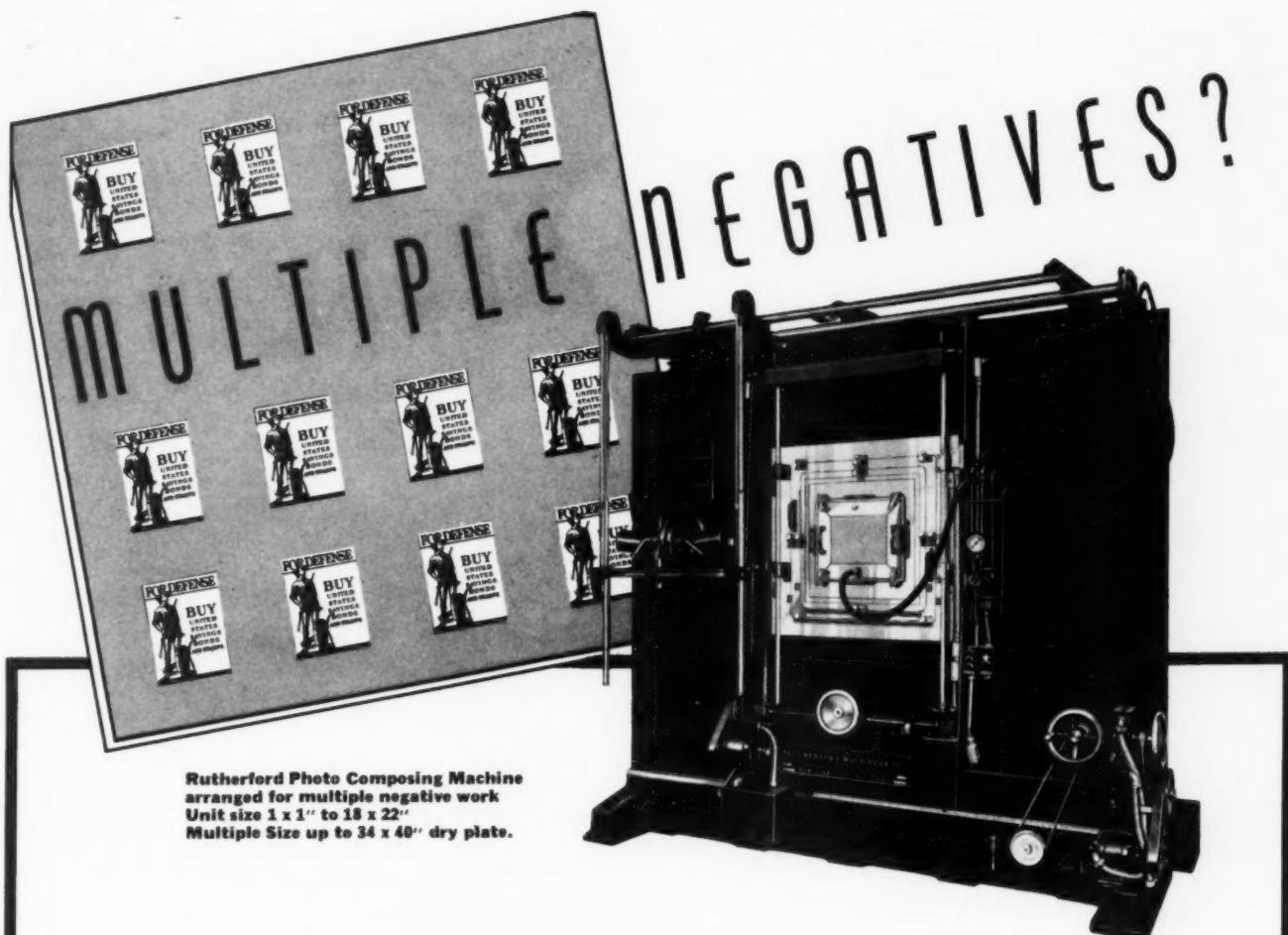
Atlanta
Cleveland
Dallas

Des Moines
Detroit
Houston

Indianapolis
Kalamazoo
Kansas City

Minneapolis
Nashville
Oklahoma City

Pittsburgh
St. Louis
Springfield, O.



Numerous articles have recently appeared in trade magazines and there has been much discussion at Graphic Arts conventions on the subject of multiple negatives, step and repeat, repeated images, etc.—all meaning the same thing. The combining of line and halftone material into one negative has also been mentioned.

This subject is being sponsored as something new—which is not the case!

Our Rutherford Photo Composing Machines have, since their inception 13 years ago, constantly been doing work of this type on film, glass and metal.

Why not let us tell you about the many installations we have made.

RUTHERFORD MACHINERY CO.

DIVISION - GENERAL PRINTING INK CORPORATION

MAIN OFFICE:

100 SIXTH AVENUE
NEW YORK, N. Y.

CHICAGO
608 So. Dearborn St.

SAN FRANCISCO
536 Sansome St.

THE VOICE OF EXPERIENCE

There is a reason why the NAPL is growing so fast. The excerpts from unsolicited letters below present real evidence of service rendered.



Every member receives every month helpful bulletin information. This data, in ring binder form, deals with Labor, Hours and Wages, Trade Practices, Estimating and Costs, Selling, Advertising Ideas, Production Problems, OPM Priorities, Copyrights and miscellaneous.

The material sent out (October 32 pages, November 72 pages, and December approximately 40 pages planned) is not news, but rather down-to-earth information intended to help the lithographer with his selling, production and management.

National Association of Photo-Lithographers
1776 Broadway, New York, N. Y.

Dear Mr. Soderstrom: I am interested in knowing more about your work. Our press equipment is:

No.	Size	Make
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Firm Name _____
Executive _____
Address _____
City and State _____

"Your fine cooperation in this matter is only a small example of the fine assistance that we have had from your association, and Ben and I want you to know that it is greatly appreciated."

**General Printing Company, Inc.,
Springfield, Mass.**

"I would be interested in receiving reports such as accompanied your letter: A most emphatic 'yes.' This material is excellent."

**Dando-Schaff Printing & Pub. Co.,
Philadelphia, Pa.**

"I believe that your method of disseminating information in the manner that you have done the above is highly laudable. It enables the apprentice to absorb this knowledge at once without the tedious process of discovering it through months and years of learning in the hard school of experience. It enables the already trained mechanic to check against his own method and to adopt the better of the two. You are doing splendid work."

**The Columbia Planograph Company,
Washington, D. C.**

"We appreciate this very much and trust from time to time you will send us information of this kind."

**Clarke & Courts,
Houston, Texas**

"As for me, alone, feeling my way in the dark, I found ONE reliable friend, ONE source of information, ONE place where I could get the right 'dope,' at practically no cost."

**Tanki Mail Advertising Service,
Pittsburgh, Pa.**

"Among Association activities of seemingly lesser importance, is the Confidential Bulletin. But as I have expressed publicly, and now reiterate, it is of paramount importance to the membership. Perhaps I judge from my own personal reactions, but even so, we have a very valuable little service here, and it should certainly merit continued thought and support."

**Spaulding-Moss Company,
Boston, Mass.**

"May we add at this time that we have found the data that we have received from you, since our affiliation with the Association most beneficial."

Peoria Blue Print & Photopress Co.

"We appreciate your help in obtaining this material for us. We are extremely short and it is going to be a great help to our plant."

**Recording & Statistical Corporation,
New York, N. Y.**

"Thank you for the courtesies extended Monday afternoon."

**Edward Stern & Company, Inc.,
Philadelphia, Pa.**

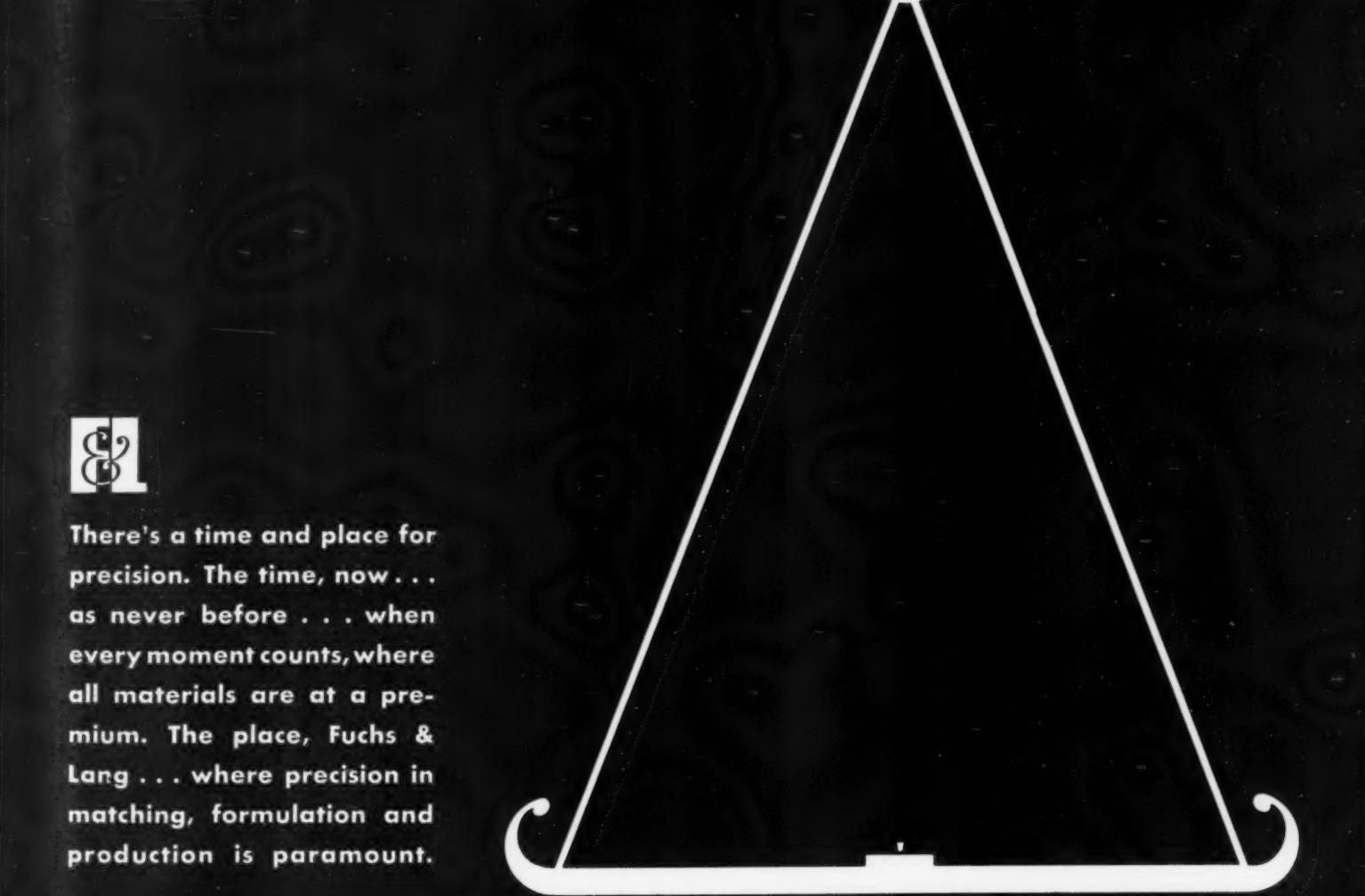
"Thank you for furnishing me with this information."

**The Stein Printing Company,
Atlanta, Ga.**

"Thank you for the information you sent to us regarding air-brush training."

**Sowers Printing Company,
Lebanon, Pa.**

Precision

A large graphic of a triple beam balance scale is positioned below the word "Precision". The scale's beams and weights are rendered in white against a dark background. The top beam has two circular weights, one on each end. The middle beam has one circular weight at its midpoint. The bottom beam, which is the longest, has two circular weights, one near each end. The entire scale is oriented vertically.

There's a time and place for precision. The time, now... as never before... when every moment counts, where all materials are at a premium. The place, Fuchs & Lang... where precision in matching, formulation and production is paramount.

THE FUCHS & LANG MFG. COMPANY

ESTABLISHED 1870 + + DIVISION - GENERAL PRINTING INK CORPORATION

100 SIXTH AVENUE • NEW YORK

BOSTON • CHICAGO • CINCINNATI • CLEVELAND • PHILADELPHIA • ST. LOUIS • SAN FRANCISCO • FORT WORTH • LOS ANGELES • TORONTO, CANADA

NTS.

PRIME GLASS

for Lithographers

- **Negative and Stripping Glass**
(FOR BLACK AND WHITE WORK)
3/32", 1/8", 3/16", 1/4" THICK
- **Crystal Plate Negative
and Stripping Glass**
(FOR COLOR WORK)
1/8", 3/16", 1/4" THICK
- **Flash Opal Glass**
Heat Resisting Glass
Heat Absorbing Glass
Screened Glass for Acid Tanks
- **Grained Glass (Silky Finish)**
For Stripping and Cameras
1/8", 3/16", 1/4" THICK
- **Crystal Plates for Vacuum Frames,
Printing Frames**
3/16", 1/4", 5/16", 3/8", 1/2" THICK
- **Grained Glass for Continuous
Tone Positives**



This glass is especially selected for the lithographic industry, and is of exceptional quality.
Some of its features are:—

Bevelled edges and rounded corners on all NTS glass. This removes the hazard of injury that frequently occurs when glass with sharp edges and pointed corners is used.

The surface is extremely tough and will withstand hard usage.

The care exercised in its selection assures the ideal glass for photographic purposes.

May we quote on your requirements? We are confident you will find our prices of interest.

Distributed by

THE FUCHS & LANG MFG. CO.

(ESTABLISHED 1870)

Division · General Printing Ink Corporation

100 Sixth Avenue, New York, N. Y.

Boston
St. Louis

Chicago
San Francisco

Cincinnati
Fort Worth

Cleveland
Los Angeles

Philadelphia
Toronto, Canada

Creates STRONG Impressions



**THE
ELECTROMATIC
*All-electric***

CARBON RIBBON

Writing Machine

quired to op
electrificatio
akes its place in
event since the i
machine. Already
as proven so valuab
only two types of
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ELITE

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electrificat.
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21

BOOKFACE ACADEMIC

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machine. Already
proven so valua-
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will be u

PICA

ferred to as
electrification
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vement since the i
machine. Already
as proven so valuable
nly two types of
r the amount of
will be used

SLANT ELITE

The clean, strong impressions created by this machine are bound to make good impressions on your prospects, customers and clients. For, this machine is fully electric powered—every type character receives the exact amount of power for ideal, uniform printing.

All the keys, including the carriage return of this Electromatic, are operated at a feather-light touch. This means greatly reduced typing fatigue,

far greater typing speed, and the best quality of work.

This machine is also ideal for direct plate typing. The precision alignment produces plates of highest uniformity, capable of standing up under long runs.

Your nearest International Business Machines representative will be glad to give you full information. Write or call him today.

INTERNATIONAL BUSINESS MACHINES CORPORATION

Offices in  *Principal Cities*

TO SAFEGUARD YOUR PRESSWORK

Naturally, Defense production comes first in the Vulcan Factory; but this does not interfere with continuing laboratory studies of offset blankets and rollers, with a view to possible improvements, or with constant laboratory supervision of the manufacture of these products. If you, like most lithographers and offset printers, are using Vulcan blankets and/or inking rollers, laboratory controlled manufacture helps to safeguard your presswork. If we can serve you further by helping to solve a specific blanket or roller problem, call upon us at any time. But please do not wait until the last minute to place essential orders for these products.

VULCAN PROOFING CO.,—First Ave. and Fifty-Eighth St., Brooklyn, N. Y.

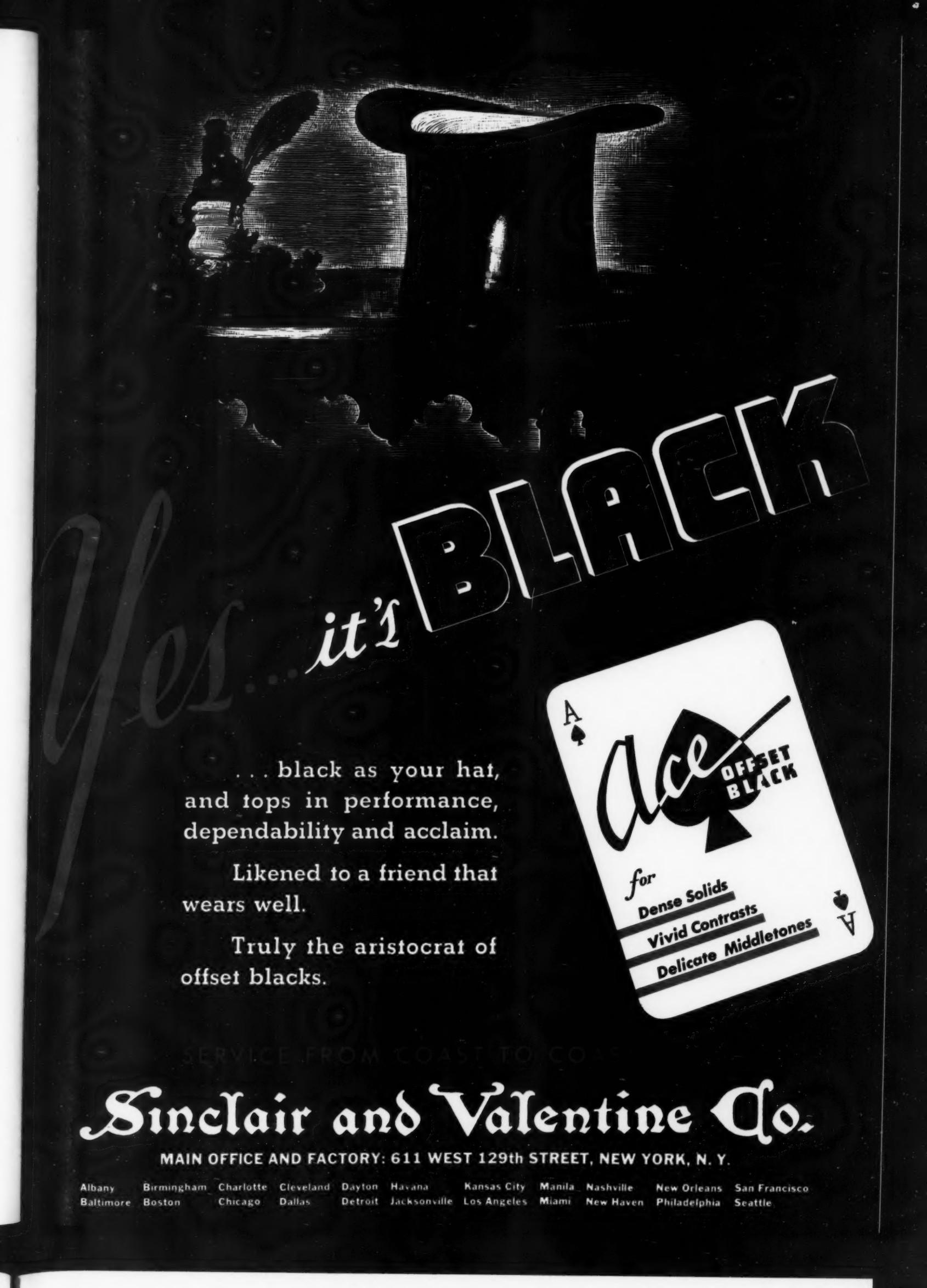
Sales Representatives in Principal Cities



Plant of the Vulcan
Proofing Company,
Brooklyn, N. Y.

VULCAN

OFFSET BLANKETS and INKING ROLLERS



... black as your hat,
and tops in performance,
dependability and acclaim.

Likened to a friend that
wears well.

Truly the aristocrat of
offset blacks.

for
Dense Solids
Vivid Contrasts
Delicate Middletones

Sinclair and Valentine Co.

MAIN OFFICE AND FACTORY: 611 WEST 129th STREET, NEW YORK, N.Y.

Albany Birmingham Charlotte Cleveland Dayton Havana Kansas City Manila Nashville New Orleans San Francisco
Baltimore Boston Chicago Dallas Detroit Jacksonville Los Angeles Miami New Haven Philadelphia Seattle

INDUSTRY ANSWERS THE CALL!



**32,145 Firms With Over
17,700,000 Employees
Have Installed the . . .
PAY-ROLL SAVINGS PLAN**



Have YOU Started the Pay-Roll Savings Plan in YOUR Company?

Like a strong, healthy wind, the Pay-Roll Savings Plan is sweeping America! Already more than 32,000 firms, large and small, have adopted the Plan, with a total of over seventeen million employees—and the number is swelling hourly.

But time is short! More and more billions are needed, and needed fast, to help buy the guns, tanks, planes, and ships America's fighting forces must have. The best and quickest way to raise this money is by giving every American wage earner a chance to participate in the regular, systematic purchase of Defense Bonds. The Plan provides the one perfect means of sluicing a part of ALL America's income into the Defense Bond channel regularly every pay-day in an ever-rising flood.

Do your part by installing the Pay-Roll Savings Plan now. For truly, in this war, this people's war, VICTORY BEGINS AT THE PAY WINDOW.

**MAKE EVERY PAY-DAY... BOND DAY!
U.S. Defense BONDS • STAMPS**

MAIL THIS COUPON NOW

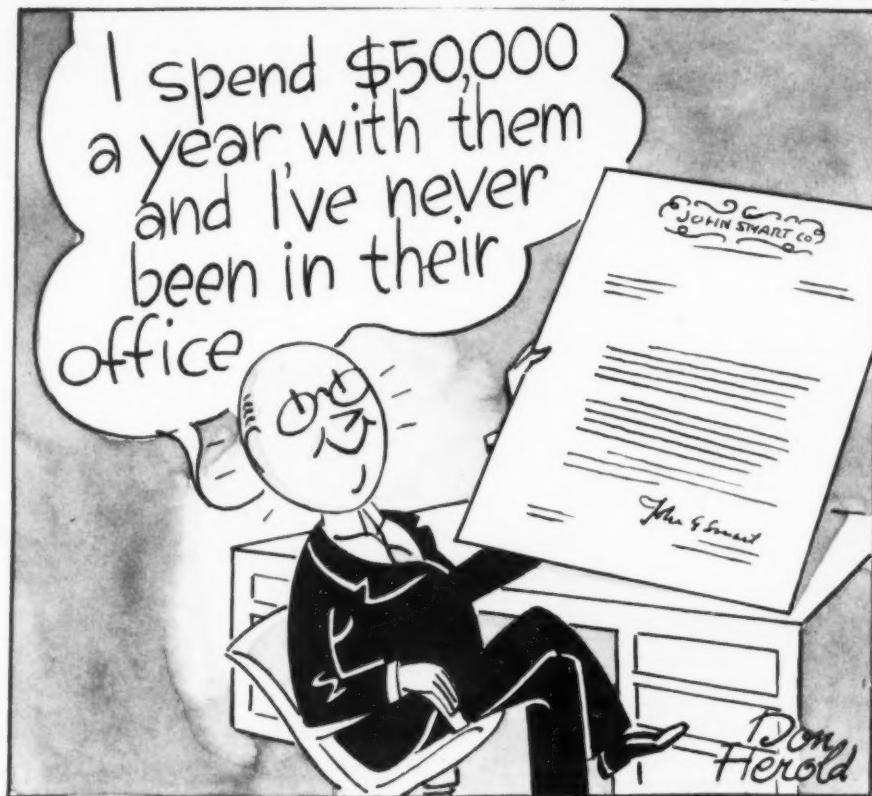
Treasury Department, Section C
709-12th St., N.W.
Washington, D.C.

We want to do our part. Please
rush full information regarding
the Pay-Roll Savings Plan.

NAME.....
POSITION.....
COMPANY NAME.....
ADDRESS.....
NUMBER OF EMPLOYEES.....



The little man in Don Herold's cartoon may be a customer of yours!



"...all I've seen is
their Letterhead on
STRATHMORE PAPER"

Did you ever stop to think how many thousands of times a year your letterhead is your *only* representative? Creating the right...or wrong...impression of your firm?

When you choose Strathmore, you know that the right impression *will* be made. The Strathmore watermark means the highest standard in paper-making. It helps to establish *your* standing.

Yet a letter on **STRATHMORE BOND**, or on **STRATHMORE WRITING**, costs less than 1% more than a letter written on the cheapest paper you might buy. And on **STRATHMORE PARCHMENT**, or **STRATHMORE SCRIPT**, as fine papers as can be made, a letter costs only 2.9% more. Such plus value, for so little cost difference, is sound business economy. Write us for detail of "Letter" Costs.

OUR PART IN THE WAR PROGRAM: Strathmore is devoting an important portion of its capacity to the production of papers for communication, records, blue prints, charts, maps, and other uses which are essential to the preparation and use of war materials.

Strathmore Paper Company • West Springfield, Massachusetts

STRATHMORE *MAKERS
OF FINE
PAPERS*

STANDARDIZE ON

STRATHMORE

These advertisements tell your customers that the Strathmore watermark stands for the best in letterheads and why a fine letterhead is true economy.

This series appears in:

FORTUNE

TIME

BUSINESS WEEK

UNITED STATES NEWS

NEWSWEEK

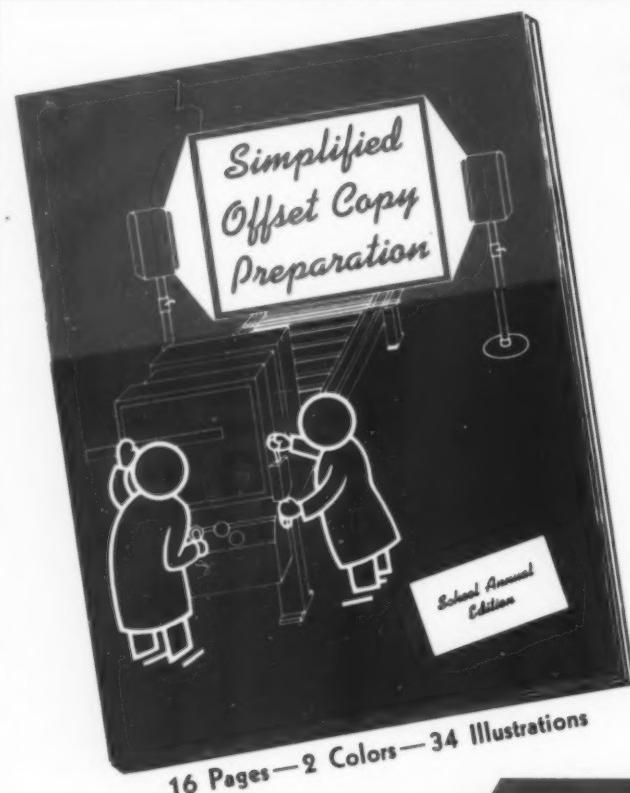
ADVERTISING & SELLING

PRINTERS' INK

SALES MANAGEMENT

TIDE

FORBES



PACEMAKER OFFSET



BROCKWAY COVER

GEORGE A. WHITING PAPER COMPANY

MENASHA, WISCONSIN

CHALK UP THESE FACTS



USE NATIONAL
TRADE-MARK

WHITE FLAME PHOTOGRAPHIC CARBONS
THE LIGHT OF DAYLIGHT QUALITY

NATIONAL CARBON COMPANY, INC.

Unit of Union Carbide and Carbon Corp.



Carbon Sales Division, Cleveland, Ohio

GENERAL OFFICES:

30 East 42nd Street, New York, N. Y.

Branch Sales Offices:

New York • Pittsburgh • Chicago • St. Louis

San Francisco

Your School Annual Customers will want this Book.

Here is a 16-page instruction book for School Annual production staffs showing them, step by step, just how to prepare their copy for the offset camera. It is a book that every school will want and it will help you to iron out many production problems that arise in school annual copy preparation. It will be greatly valued by your present school customers and will help you get new business. Your **free copy** is ready for mailing—just write us on your business letterhead.

JUST A DROP IN THE

Bucket



but what a difference in PRESS QUALITY!

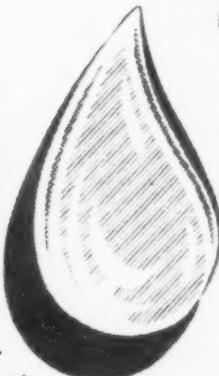
FEATURES

- DESENSITIZES PLATE
- APPROX. 25% WATER REDUCTION
- FULL COLOR STRENGTH, BRILLIANCE AND DENSITY
- ELIMINATES SCUM
- INCREASES PLATE LIFE
- PERMITS FINER GRAIN ON PLATE
- ASSURES BETTER REGISTRATION
- ECONOMIZES ON USE OF GUM AND ETCH CONCENTRATE

INTENSOL is a chemical preparation for use in conjunction with the fountain solution. It is compatible with all types of etch and is neutral, having a pH reading of approximately 7.0. Since INTENSOL enables your pressman to operate with much less water, the obvious result is a very perceptible increase in color strength, brilliance, and density. Its positive action as a plate desensitizer absolutely elimi-

nates scum. You will find an increase in the number of impressions obtained from each plate.

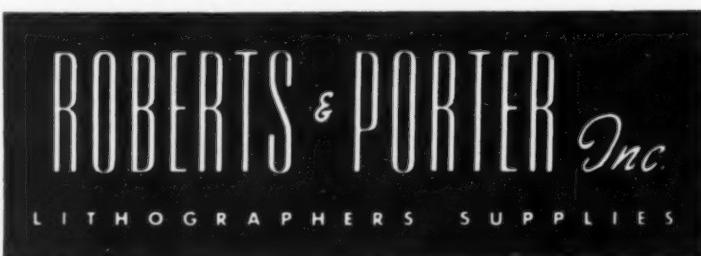
In a number of tests on various presses and types of work, it was found possible to run with water reduced from 10% to 30% and in one particular case the water was cut from 18 turns to 3 turns, the work sharpened up and the color was increased in intensity approximately 25%.



This new preparation is offered as an intensifier of ink repellency, as a plate desensitizer and a surface tension reducer. It is NOT an acid and must be used in conjunction with the satisfactory or acceptable etch concentrates now commercially available.

Please allow us the opportunity to demonstrate the merits of INTENSOL in your plant by placing your order now for one gallon, subject to your approval. If it should prove unsatisfactory, you may return the unused portion and receive credit in full.

An R & P Research Product



CHICAGO 402 SOUTH MARKET STREET
NEW YORK 100 LAFAYETTE STREET



CHAMPION MOVES to the War Front

Champion supplies pulp for explosives and paper to Government and to war industries. They also cooperate in every way with federal agencies to get the greatest possible production. Although war activities come first, Champion still makes paper for essential civilian needs. Ideal locations, farsighted control of raw materials, excellent equipment, and long experience in research and manufacture... all contribute to the production of the finest printing paper possible in this emergency.



THE CHAMPION PAPER AND FIBRE CO., Hamilton, Ohio

MILLS AT HAMILTON, OHIO . . . CANTON, N. C. . . . HOUSTON, TEXAS

*Manufacturers of Advertisers' and Publishers' Coated and Uncoated Papers, Cardboards, Bonds, Envelopes
and Tablet Writing . . . Over 1,500,000 Pounds a Day*

DISTRICT SALES OFFICES

NEW YORK • CHICAGO • PHILADELPHIA • CLEVELAND • BOSTON • ST. LOUIS • CINCINNATI • ATLANTA

EDITORIALS

WE heard someone express the thought that at a time like this it were better for industry and business to give up the custom of the annual convention. That the time and physical energy could be better spent on the production line or behind the desk, and the necessary transportation energy—gasoline, oil, rubber tires, etc.—necessary to carry the conventioneers be conserved for the immediate task of winning this war. The argument runs that since this is a total war and all business and industry are, or should be, on a total war footing, all planning and thought should be directed to that end, that we have been dangerously slow-footed in coming to that semi-realization as it is, and that, therefore, any habit or custom belonging to normal times, like the annual convention, should be eliminated as pernicious to morale and confusing as to the real issue.

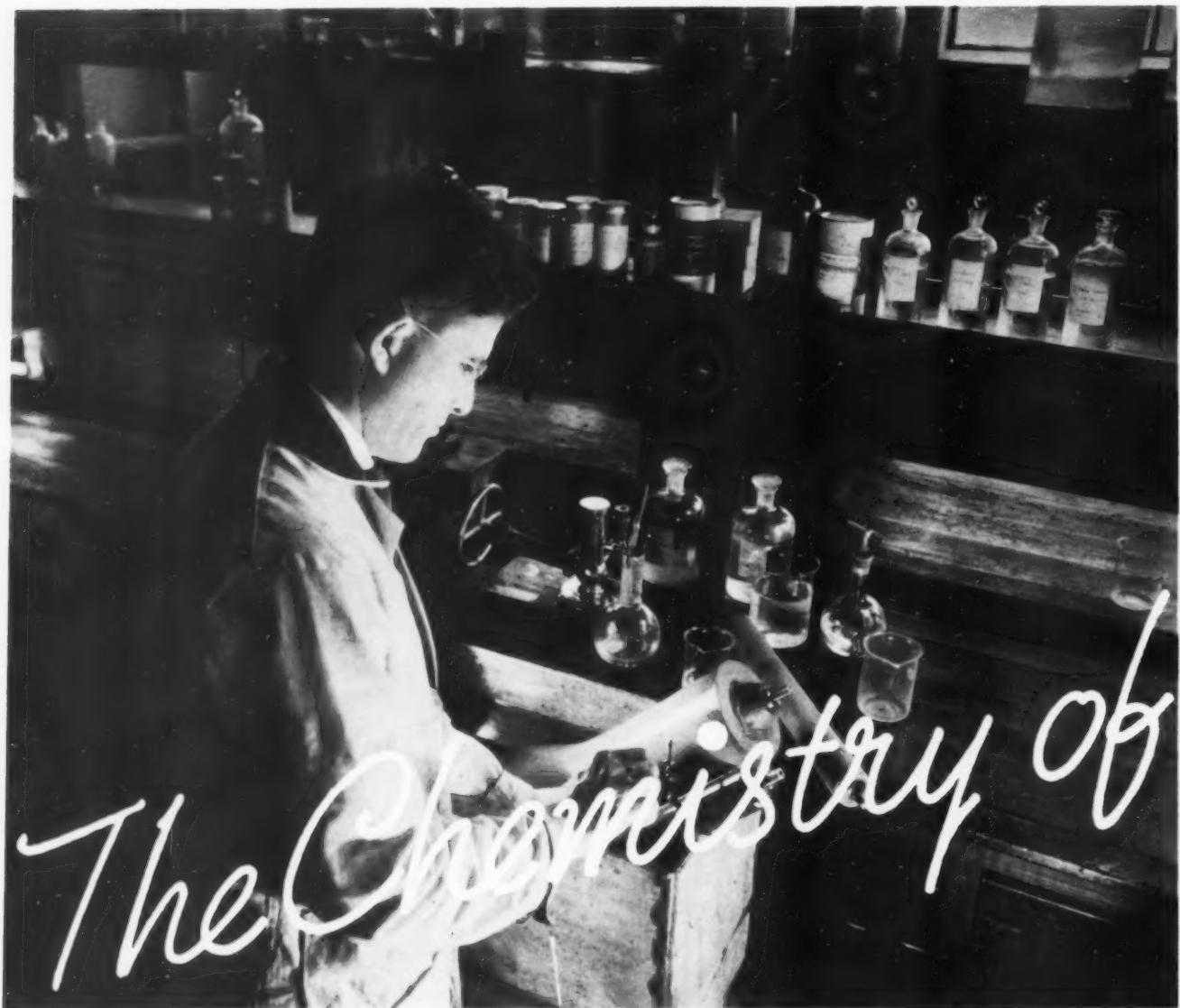
Obviously, we can't speak for business and industry as such, but we think we do speak for the lithographic industry when we say that the line of argument advanced above simply does not apply. To the uninformed it may have the merit of some weight. But to the informed, those who have been attending our lithographic conventions of recent months, it bespeaks an ignorance so wide and vast as to warrant dismissal without another thought. But these are times when it is ill-advised to dismiss the most innocent-seeming ideas, and because we think that the custom of holding annual lithographic conventions is one we want to keep, in or out of war, we're afraid we shall have to give it some thought.

It's all a question of values, we suppose. To some, and perhaps the gentleman who advocated eliminating conventions is among them, the annual convention has always been a rout and a revel, a three-day bank-holiday of lavish dining and more lavish wining, a fitful excursion of frolicking fun and heady abandon—in short, a spree, and with the spree's inescapable morning after. Good sense dictates that in times like these—or in any time for the matter of that—conventions of this sort should be eliminated. But certainly no one in all seriousness can accuse the litho-

graphic conventions of belonging in that category. To be sure there has been the pleasantly convivial side, but it has been heavily outweighed by attention to the problems of the day, the immediate and pressing problems which face us, not as a collection of competing individual lithographers, but as a unit, as an industry. And it has been, and is, this devotion to the industry as a whole, this concern with the welfare and continuing health of the entire industry, that has made our lithographic conventions the potent and sustaining and necessary forces in our industry life they are today, and why they should, by all means, be preserved.

Those who attended the production clinics sponsored by the Lithographers National Association at White Sulphur Springs last May, and by the National Association of Photo-Lithographers at Cincinnati last September, will understand what we mean. And a glance at the proposed program for a joint war council of all the lithographic industry announced by the Lithographers National Association at its coming convention in Chicago, May 12 to 15, on page 47 of this issue, should help confirm our belief in the need of holding fast to our custom of the annual convention. *Particularly* in times like these, not *despite* them. For if our annual conventions can help maintain our morale, help us to carry on, help make us better equipped and better prepared, and thereby better efficient to do our share in aiding Uncle Sam lick our common enemy, and they can, then not only will the physical energy and the gasoline and the oil and the rubber tires we use have been well-spent, but necessary.

AGAIN we urge lithographers to reply promptly to questionnaires received by them from their trade associations regarding inventories and usage of equipment and materials. All such requests must be complied with immediately so that accurate figures can be submitted to Washington for study and the lithographic industry receive its just pro rata share. To delay in answering may prove costly!



The Chemistry of

PHOTO-LITHOGRAPHY

EXPOSURE to light causes the silver halides (bromide, iodide and chloride) incorporated in the sensitive emulsion of plates, films and papers to undergo a chemical change. Prolonged exposure to light will cause the silver salts to blacken. To effect a photographic image by the action of light alone would be too lengthy for practical purposes. A short but adequate exposure to light activates the silver salts in such a manner that they retain an invisible or latent image. This latent image retains an inherent tendency to continue the

change instigated by the light when treated with appropriate chemicals. Whatever the exact manner of change may be which causes the light-struck silver salts to form this latent image, it is certain that a reduction to metallic silver takes place. The chemicals which have the power to further this action and liberate the activated silver from its salts are called reducing agents. The solutions in which they are compounded are termed developers since they continue or promote the development of the photographic image. The reducer, because it is the most

important chemical in the developer, is also called the developing agent.

Most of the reducing agents in a single solution are neutral or slightly acid and in this state they develop very slowly if at all. To facilitate the action of a developing agent certain alkaline chemicals are added to the solution. An alkali in the developer has a two-fold action. First, it combines with the reducing agent to give that chemical the required developing properties; and secondly, it swells the gelatin of the emulsion, opens the pores and permits the developing agent to penetrate and

act on the imbedded silver salts. Because of its action in promoting the effectiveness of the reducing agent, the alkali is called the accelerator.

Reducing agents have a great affinity for oxygen and it is upon this property that their ability to develop exists. The alkali which promotes the developing action also increases the readiness of the reducer to absorb oxygen dissolved in the water and from the air. A solution containing only the reducer and an alkali would not keep very long for oxidation would deteriorate the developer as well as stain any negatives developed therein. Consequently, it is necessary to add a chemical to the developing solution which will afford a greater affinity for oxygen than the reducer. By absorbing oxygen into itself, this chemical leaves the reducer free to perform its required chemical action. The protective nature has earned for this chemical the appropriate name, preservative.

Off hand it would seem that the developing solution is complete, but unfortunately in the presence of only the alkali and the preservative, the reducing agent may attack the silver over the entire surface of the emulsion. In order that the developing agent will not reduce the unexposed silver salts, the developer must contain a restrainer.

From the foregoing we see that a developer must contain (with few exceptions) in addition to the reducing agent: (1) an alkali, (2) a preservative, (3) a restrainer. There are a number of chemicals in each case which have the requisite properties, but they do not give identical results in a developer and are not, therefore, interchangeable. Though it is expedient at all times to follow the manufacturer's directions, occasions may arise when the litho-photographer wishes to compound a developer capable of producing a specific result. It is necessary in such cases to know and understand the various chemicals of which a developer can be compounded.

Reducers

Of the many chemicals capable of

The functions of the various Reducing Agents, Developers, Accelerators, Preservatives, Restrainers, etc., — the first of a series.

By Herbert Paschel

efficiently reducing silver salts to metallic silver, the majority are impractical for most litho-photographic purposes. For use in photography, a reducing agent must be selective in its action and must permit a certain degree of control. Mixed with appropriate chemicals, it should act only on the silver salts affected by light and in a degree proportionate to the intensity of the exposure. Development should also be possible for varying periods, over temperature variations within reasonable limits and in various concentrations without adversely affecting the sensitive emulsion.

Among the chemicals which have proven themselves suitable are the following:

Amidol, fine white or bluish grey crystals very soluble in water. It produces an energetic working developer which can function even in the absence of alkalies. The addition of an alkali such as sodium carbonate creates effervescence and has a tendency to produce heavy fog with a consequent lowering of contrast. An Amidol developer is very unstable and should be used on the day it is made.

Elon (Metol-Pictol-Phodol), white, crystalline powder readily soluble in cold water. Elon dissolves with some difficulty in a sulphite solution; therefore, in making up a developer the Elon should be dissolved before the sulphite. An image developed in Elon comes up very rapidly and gains density slowly. For continuous tone negatives and positives of soft

character but full of detail, the Elon developer is especially suitable. The stability of Elon developers is very high both in stock as well as working solutions.

Glycin, a white powder of small plate-like character, slightly soluble in water but readily soluble in alkaline solutions. With Glycin it is preferable to mix it by first dissolving a part of the alkali then adding the Glycin. It is a slow-acting, but powerful developer yielding five-grained silver images remarkably free from fog. Glycin offers a marked resistance to oxidation, therefore, its stability makes it an ideal tank developer.

Hydroquinone, fine, white, needle-like crystals which will dissolve in about 18 parts of water. Hydroquinone is one of the most widely used photographic developers, independently and in conjunction with other reducing agents such as Elon. In a developing solution, Hydroquinone is practically inert at temperatures below 55° F., whereas at very high temperatures its action is much accelerated. Hydroquinone tends to act slowly but it builds up a high contrast. It is an excellent developer for line and halftone work since it builds up maximum density at the point of pronounced exposure. At the point of little or no exposure, the soluble bromide liberated by the emulsion retards the action of the Hydroquinone producing transparent shadows with a resultant negative of high contrast. In combination with Elon, Hydroquinone pro-

duces developers yielding negatives containing the requisite density and contrast, yet retaining the necessary shadow detail.

Pyro (Progallic acid), available in two forms: (1) resublimed, fine feathery crystals which are too light and fluffy for most photographic work and, (2) white or slightly yellow irregular crystals, much denser, of about 1/10 the bulk of the resublimed. The properties of the two forms may be considered as equal. *Pyro* is extremely soluble in water, but the solution oxidizes very rapidly unless prevented from so doing by the addition of suitable preservatives such as sodium sulphite. *Pyro* is used chiefly for negatives and the oxidation produced gives the resulting negatives the characteristic *pyro* quality, namely—a brown staining of the image. *Pyro* has fallen into disuse, although it is the oldest of the organic developing agents, simply because of its poor keeping quality and its tendency to stain the hands of the user. An advantage worth remembering is that the contrast of *Pyro* developers can be controlled by the amount of alkali present. A *Pyro* negative consists of two densities: (1) the developed silver image, (2) the characteristic *Pyro* stain (an oxidation production) which is proportionate to the amount of silver developed. Since *Pyro* is readily oxidized by alkali, the greater the concentration of alkali, the greater the amount of stain deposited at the point of development. Based on this fact, *Pyro* developers of varying contrasts can be compounded. For soft results, little alkali is used, whereas larger amounts produce a high degree of contrast.

Accelerator

THE suitable alkalies are of two kinds: the caustic alkalies, sodium hydroxide and potassium hydroxide; and the carbonated alkalies, sodium carbonate and potassium carbonate. The caustic alkalies are practically limited to developers of great energy and speed in action. When used with Hydroquinone, negatives of maximum density and contrast are obtained. For this reason it is often

used in process work for line and halftone negatives. They should be used with caution, however, particularly in hot weather, for developers containing either may swell the gelatin of the emulsion to an abnormal degree and cause excessive swelling, blistering, frilling, etc. Even in the absence of any immediate damaging effects, the caustic alkalies may so weaken the gelatin of the emulsion that at a later stage, the damage may become evident. This is particularly true in the case of dot-etching or other after-treatment of the negatives. This precaution, however, is not necessary in the case of *Pyro* developers, for the damaging effects of the caustics are offset by the tanning, or hardening, property of *Pyro*. Potassium hydroxide is stronger than sodium hydroxide. Both forms are subject to chemical change by the action of air, and should be kept tightly sealed. Rubber-stoppered bottles should be used since the alkalies attack glass and would cause a glass stopper to stick.

Sodium carbonate is the most widely used alkali. It is available in three forms: crystals which contain only 37% of carbonate, anhydrous which contains practically 100% carbonate, and monohydrated which contains only 85% of real carbonate. Either of the three forms may be used with equal photographic results. Due allowance must be made in the difference in strength. Potassium carbonate has a slightly higher alkalinity than sodium carbonate. The photographic uses and effects of both are practically equal. Potassium carbonate is rarely used since it offers no advantages over sodium carbonate and is somewhat higher in price. It is, however, slightly more soluble in water than sodium carbonate. One of the disadvantages of potassium carbonate is that it readily absorbs water and if exposed to air becomes damp and is then of greatly reduced and unknown strength.

Ammonia has also been used as an accelerator, particularly with *Pyro*, but this alkali has fallen into disuse. Ammonia is the solution of a gas which constantly escapes from the solution, thus producing a de-

veloper of uncertain strength and action. It is higher in alkalinity than the carbonates, but weaker than the caustics. Borax, another alkali quite weak in action, finds its usefulness for fine-grain and low contrast negatives. Its fine-grain action is undoubtedly due to its combined function as accelerator as well as restrainer.

In certain high contrast process developers, paraformaldehyde is used as the accelerator, but in itself cannot be classed as an alkali. It creates a high degree of alkalinity by chemical reaction with the sodium sulphite, producing sodium hydroxide (caustic soda) which is, of course, a very active alkali. The entire reaction of paraformaldehyde in a developer is not fully understood, but it is believed that at the point of maximum development, the greatest concentration of alkali exists, thereby exerting maximum developer efficiency at the point of maximum exposure. In this manner, the developer is exceptionally active where a high degree of exposure has taken place and is practically inactive in the areas of little or no exposure, producing thereby an image of great density and contrast. This type of developer does not maintain a balance, deteriorates rapidly in both working and stock solutions and cannot be depended upon to be working at its highest efficiency.

Kodalk is a patented alkali which has many advantages. As a general rule the alkali in a developer gradually loses its effectiveness through exhaustion and other chemical reaction. Kodalk is a compound of alkalies which has a buffer action and thereby maintains a balanced alkalinity throughout the useful life of the developer. In addition, it eliminates blistering which is often experienced with carbonate developers when neutralizing a plate or film in an acid hardening fixing bath.

All of the above-mentioned alkalies possess alkalinity which may be measured according to known chemical standards. By variations in weight they may be used in place of one another to obtain solutions of a

(Turn to page 61)

MOUNTING AND DIE CUTTING

HINTS FOR LITHOGRAPHERS

By William A. Freedman

WILLIAM A. FREEDMAN DIE CUTTERS

IMPROVEMENTS in the offset process, together with many improvements in offset equipment and new developments in lithographic materials, and the increased use of lithography by buyers, have combined to make the lithographic industry an attractive field to many graphic arts producers. Consequently, within recent years there has arisen a new school of lithographers, comparative newcomers to this specialized field. Eventually the new Oliver Offset and Larry Lithographer must encounter his first job involving finishing, such as the mounting of his printed sheets on cardboard, die cutting, and perhaps easeling, or it may be a tricky direct mail piece calling for die cutting, creasing and folding of the paper itself.

The old timers, some of whose experience dates back to the stone age of lithography, generally know just how to go about preparing such a job. Through long years of repeated contact with finishing houses they have developed the correct practice to insure efficient, successful production and a high standard of quality in the final results.

The newer lithographers who aspire to some degree of perfection and craftsmanship deserve to be informed of some of the trade customs, the precautions to take, pitfalls to avoid and procedure to follow in printing sheets for mounted displays and other die cut items. Perhaps, too, the old timers will welcome a resume

and refreshing of their own information and experience.

The Finisher

It is best to consult the finisher well before ordering material, making the plates or laying out the job. The finisher who advertised in MODERN LITHOGRAPHY recently and said "Your correspondence on any finishing problem will have our prompt and careful consideration," is only expressing the wish and eager desire of the entire Mounting and Finishing Industry to be of service to and help the lithographer intelligently. Should the job require creasing you will find the finisher willing to test several samples of stock for "creasability;" if it is a mounting job he will gladly try its "mountability." A 100% successful job will be smoothly turned out by combining a little common sense and care together with the finisher's cooperation. Haphazard treatment may result in anything from a 3rd degree headache to a first class nightmare.

Sheet Specifications

In general, jobs to be mounted should be printed on 70 lb. or 80 lb. offset or coated paper. For special effects there are a myriad of colors, designs and textures of plain and fancy papers that can be mounted. But be wary of the light weight bond that is used so universally in black and white offset. Lightweight ledger papers are not satisfactory for mounting.

Back Lining

Most mounted jobs require that the back of the board be lined. The lining gives the back of the display a finished appearance. It is necessary to prevent warping. It also enhances the rigidity of the display. Many displays are lined with a good grade of white news. Next in popularity and a little higher in price comes machine finish book paper. Sometimes a manila or Kraft lining is used for slightly greater rigidity, especially where there are many scores. This still leaves a wide choice of colored and

At a time like this, when economy is the watchword, it is imperative that the lithographer avoid every possible wasteful pitfall in printing sheets for mounted displays and other die-cut items. Towards that end the author lays down some fundamental rules to remember.



New window display produced for
Schaefer by Einson-Freeman Co.

fancy papers for the backs of de luxe displays or those whose design calls for unusual treatment.

Mounting Board

THE finisher should be advised as soon as possible that he is to receive the order. In normal times it takes 4 to 10 days for the mill to make the mounting board. At present writing, however, it takes from 4 to 10 weeks. The sheet size, work size, trim and border margins should be agreed on between the lithographer and the finisher so that the correct size board will be ordered. Should the finisher not have sufficient time to procure the board to order for the job under consideration, he may have to use whatever he has in stock or can procure from the stock of a cardboard jobber or warehouse. He may have to use a wasteful size or thickness or compromise as to the

grain, finish or thickness of the board

Mounting board is a chipboard made to special requirements with regard to finish, density, moisture content and ingredients. The finisher pays a premium over ordinary grades of chipboard to secure these qualities.

The standard board thicknesses are:

40 pts. finish
50 " "
60 " "
65 " "
75 " thickness
85 " "
100 " "
125 " "

A point is one thousandth of an inch. Some mounters are equipped to handle board up to 250 points in thickness. The finished thickness of the sandwich is specified, the chipboard being the filling and the face

sheet and back lining the bread. It is not advisable to designate the thickness in plies, as plies and points may be confused. Plies are used in connection with coated blanks; points for designating thickness of mounting board. The mounter can recommend the most suitable thickness. The present tendency is to lighter thicknesses to save shipping weight and unnecessary expenditure for board. The mounting process has been improved so that extreme thickness is no longer needed to prevent warping. Where structural strength of a display is needed, it may be derived from the easel, bracing, or in the architectural design of the display.

If a display is to have bevelled, gilt, or colored edges a heavier thickness should be favored so as to get maximum effectiveness from the bevelling or coloring.

Laying Out The Job

The equipment and shop practice are not the same in every finishing plant so their trim and margin requirements may not be alike. Mounting jobs require at least $\frac{1}{4}$ " allowance all around for outside trim. Some plants ask for $\frac{1}{2}$ " all around, others for $\frac{1}{2}$ " on gripper edge only. On displays to be mounted to 50 points or lighter $\frac{1}{4}$ " inside trim is suggested, $\frac{1}{2}$ " on 100 points, in proportion on other thicknesses. Under some conditions two subjects having straight edges can butt each other with no trim at all if the color is the same and they are to be die cut. On displays being guillotine-cut a better job will result if in-between trim is provided. Jobs often arrive at the finisher's plant that have been erroneously trimmed to size by the printer before hand. In such cases the finisher can do nothing but take off another bite after mounting, provided the nature of the subject allows it. Irregular shaped subjects may be interlocked or staggered to keep the sheet size down.

Grain Direction

The grain should run with the longest dimension of the subject. In the case of several sizes confined on one sheet the larger pieces should

be favored in the matter of grain direction. The type of construction, easels, etc., may also influence choice of grain direction.

Guides and Register

PAPER sheets that are to be die cut without mounting on board should also have trim all around and trims between the subjects. Before printing the sheets, especially if the printing appears on both sides of the sheets, an understanding should be had with the die cutter as to whether it is best to run sheet-wise, work and shift, work and turn, tumble-sheet, draw-guide or push-guide, etc. In running a sheet back and front, work and turn, with one or more subjects on it, it is very important to run a "push-guide" on one side of the sheet and a "draw-guide" on the reverse side. This means using the same side guide edge of the sheet for back and front, but opposite sides of the press. Lithographers are hard to convince, but it has been demonstrated time and again that the stock is never cut accurately enough to insure a satisfactory job using both edges of the sheet for guides. This cannot be emphasized strongly enough. Very often when this precaution has been ignored the customer has to be satisfied with half the job cut to register and the other half varying according to the variation of the sheet size. Sometimes the margins are generous or the nature of the subject is crude and a little variation is allowable. The writer has found it best to treat every job as if it required the utmost of quality and manufacture and to standardize one's practice accordingly.

Sometimes only one set of plates is available, but the printer wishes to run the sheets twice so that varnishing, mounting and die cutting would need to be performed on only half the quantity of sheets. If close register is required it is better to run work and shift (sheetwise) rather than work and turn.

The guide edges should always carry printed indications. A tack mark will generally suffice. Should it be possible to spell out the words "side guide" and "gripper" so much



New Mazda lamp display produced for Westinghouse by Einson-Freeman Co.

the better. If the tack mark is right on the edge of the sheet it can serve to check whether there is any variation in register. It also helps prevent operators and handlers from turning sheets upside down or wrong edge to. On multiple forms, if possible to key the various subjects it is also advantageous. Let the guide indications appear on both back and front if sheets are printed both sides.

Horrible Example, an Actual Occurrence

A lot of one thousand sheets printed as circular recording instrument dials arrived at a finishing plant recently with copy, to be cut into 5 inch circles with a center hole. There was no printed guide indication but even had there been it would have done little good as the printing varied terribly. On checking the sheet to make the die it was

found that the outside printed border circle measured $6\frac{7}{8}$ inches across from side to side and measured $6\frac{3}{4}$ inches top to bottom. Further checking disclosed that not all the sheets showed this defect. Some of them were perfect circles. The die cutter was bewildered. A phone call to the printer finally brought out the fact that he had run the job two on, chopped it in half and put both halves together. Under such conditions the die cutter could not promise to do an accurate job. The job was finally reprinted one up using the good plate. This printer learned a lesson painfully, such as the writer wishes to spare others. Had the run been large it would have been a terribly expensive lesson.

High Die Cutting

Cigar bands, some bottle labels
(Turn to page 63)



MODERN LITHOGRAPHY

SUM ENEY

fifty years a craftsman

THE year Sum Eney was born, 1881, the largest advertiser in the U. S. was Charles A. Voegeler, manufacturer of St. Jacob's Oil, a patent medicine. In fact, most of the advertisers of that day were patent medicine manufacturers, and the total number spending as much as \$100,000 in a year was less than a dozen. Typical of the kind of advertising was this gem:

"Have you \$1 and have you piles? Send us your dollar and we'll cure your piles. Or keep your \$1 and keep your piles."

It was not, you might say, the happiest era in the history of the world for a man to be born who for the best 50 years of his life was to devote his energies and talent to more and better printing in advertising.

Or, on the contrary, maybe it was just the right time. Not one business man in five in those days had any degree of faith in advertising of any kind. Illustrations were rare, and then often had little to do with the product or the message, being principally decorative in function. At any rate, for better or for worse (and we now know it was "for better"), born Sum Eney was, in Baltimore, city of the white stoops, on the fifteenth day of April, in the year 1881.

It was five years before Mergenthaler invented the Linotype, four

years before the first skyscraper, three years after the invention of the halftone, eight years before process engraving was considered to be equal of the wood-cut, and three years before the application of the rotary press to magazine production. The largest magazine was *Century* with 186,257 circulation. Newspapers and magazines were largely out of the reach of the mass of the spending market on a price basis. Outdoor advertising as a trade was unorganized and undependable.

As for most printed material, it was wretchedly conceived and printed. Perhaps the greatest single exponent of well-planned printed material was the National Cash Register Company, which published many booklets and folders called "primers," which were supposed to answer the questions likely to arise in the mind of the public about cash registers. National Cash Register devoted considerable time and expense to continual improvement of its "primers," but for the most part,

We are happy, along with the rest of the Graphic Arts, to pay honor this month to a man

who for fifty years has

printing craftsman-

today wears the

of spirit before

half a century

barefoot boy of

into the print-

ment of James

Baltimore

first job. For

the true de-

real crafts-

say, we are

him, along with

Graphic Arts, at

in the Grand Ball

Biltmore in New

(Tickets for the affair

trade associations, or from Al

Monaco, E. W. Blatchford Co., or Herman Diamond, Margach Mfg. Co.)



planned printing as we know it today was in a primitive stage. Illustrations consisted mainly of crude wood-cuts. The average catalog was little more than a price list and embodied no real sales appeal.

On the whole, direct mail and printed material lagged far behind other media of the printed word. The reason apparently was that the printer was a mechanical man and his sales effort consisted of taking orders. There was virtually no creative selling by the printer and it was to be many years before such a practice was even thought of.

Sum's first job was with the printing establishment of James P. Reese, 32 South Street, Baltimore. The year was 1892, and Sum, as you've guessed, had reached the tender age of 11. He was also barefooted.

Now it has not been so many years back that the barefoot boy was eulogized from the speaker's platform, and in our literature, as a symbol of American democracy. Only in such a country as ours, it was said, could a man rise from a lowly barefoot boy to great estate, as a banker, a railroad president, or, yes, even as a printer. And as recently as the last Presidential election, we spoke of the Republican nominee, Wendell Willkie, as the "barefoot boy from Wall Street." So, taking our cue from custom and tradition, we might hail Sum Eney on this, his 50th year in the Graphic Arts, as the "barefoot printer."

It would be a way of measuring the immense distance he has travelled in these fifty years, and of saluting his accomplishment.

It would also prove something about the child being father to the man, for man and boy, Sum Eney, despite a couple of gray hairs and his pearl spats, is, underneath, the same "barefoot printer" he was 50 years ago. The same curiosity is there. The same quick intelligence. The same unyielding stubbornness. The same readiness to throw off his coat and roll up his sleeves and go to work. The same intolerance of sham, humbug and red tape and

all form of ostentation and pompous display. And the same good friend. Man and boy, it's the same guy!

BUT because he *is* the same guy we have an idea Sum Eney would dismiss all reference to his barefoot boyhood as sheer senti-



ment, just as he would dismiss the idea that the contrast between his condition then and now represents a real achievement, an achievement marked by dogged persistence, lots of guts and plain hard work.

"Barefoot, sure I was barefoot," he would say. "What of it? Lots of guys were barefoot in those days. And if you try to make something out of it other than the cold, hard truth of the matter, which was that I had one pair of shoes in those days—my Sunday ones—and that I didn't want to wear 'em out kicking a job press—which was my first job—then you're trying to put polish on the wrong guy. After all, I'm a printer, not a glamour boy, and I ain't running for president."

You see? You try to set the stage for him a little, make it all quite impressive, and ask him to stand up and take a bow, and he turns on you, makes you look like a dope and kicks all your amateur dramatics into a cocked hat. He may be the Lincoln of the Graphic Arts, but he's Sum Eney first.

And Sum Eney has little patience for pretense in any form. He may go out of his way, as he has a thousand times, turning offices and organizations upside down, wearing his friend's patience to a frazzle, and even make an enemy or two, to land some worthy fellow a job. But let that individual remind him of it afterwards, or attempt to thank him, and like as not Sum, his face contorted into something resembling a snarl, will walk out on the fellow, leaving him to mutter his gratitude in thin air. That's the kind of a man Sum Eney is.

Oh, sure, he has his moments of bluster and swagger. After all, he ticks just the same as the rest of us. He may even be given to an exaggeration now and then. So what? In his day Mark Twain, whom Sum in many characteristics resembles, particularly when he's on a platform with a pitcher of water, was called "the Messiah of a genuine gladness and joy to the millions of three continents," and "ambassador-at-large of the United States of America." Yet Mark Twain could call us "God's most elegant invention, the damned and mangy human race," or say "I have been reading the paper. I do it every morning, well knowing that I shall find in it the usual depravities and basenesses and hypocrisies and cruelties that make up civilization and cause me to put in the rest of the day pleading for the damnation of the human race," and get away with it. Get away with it? We loved him for it! In the same way Sum Eney can cuss and swear before a crowd of printers and lithographers and call 'em the dumbest damn animals God ever created, and get away with it. Get away with it? We love him for it!

After all the Graphic Arts has lived and worked alongside Sum Eney for well nigh onto 50 years. It should know by now the measure of the man. It should know by this time that when he snorts and snarls and fills the air with a good, round, juicy epithet that it's his way of telling us he thinks we're

the best damn printers and lithographers on earth, and he's all for us, come hell and high water. He wasn't brought up on milk toast remember. He had to kick hell out of his bare feet for a long time before he could put on shoes. And it was a long time before all of the bruises healed. And sometimes, even today the memory of 'em comes back with a wince. You can't expect a man like that to talk as though he had a mouthful of goopher feathers.

The details of Sum Eney's 50-year career in the Graphic Arts are pretty well-known to everybody. After walking five miles every day to work in his bare feet to kick a job press for James P. Reese, he up one day and joined McClary's *Prohibition Advocate*, in Baltimore, where it was his job to buy the paper and print that musty old sheet, mostly all from boiler plate, fold it, address it and send it off in the mails. He stuck it out there for the better part of a year, but the opportunity for displaying craftsmanship of any sort was lacking. And it was Sum's ambition always to be a top craftsman. So, at the age of 13, seeing what he thought was a fine opportunity to learn his craft, he left the *Advocate* and joined Munder's, also in Baltimore. It was under Billy Munder that he learned his trade as a printer. At the time, the house had the reputation for the best halftone color printing in the country, so Sum was in his element. He still looks back on the days at Munder's as probably the happiest in his career. He was learning how to be a real printer.

In those days, as he is now, Sum Eney was an impatient cuss. He wanted always to be on the move. There was something of the *wanderjahre* tradition of the old journeyman printer in his make-up. At the same time, he would never make a move unless it provided the means and opportunity for making him better at his trade. He thought he saw that opportunity at the *Baltimore Sun*. And so we see him next in charge of the job plant there. Then he was placed in

charge of the entire pressroom. That lasted until the Baltimore fire of 1904. New York was his next stop, and the job department of the old Robert Stillson Co., Center and White Streets, his scene of operations.

THE next move was one of the big turning points in Sum Eney's career. As a craftsman he was tops. None came better. He was at the top of his long climb. He could go on being one of the best printers in the country. But there didn't seem much point. He had got what he was after. He was restless. What next?

The Harris Company, under A. F. Harris, now Harris-Seybold-Potter, supplied the answer. They needed a crack printer, one who knew all about paper and ink and how to operate a press and keep it operating, to go on the road as a press salesman. Would he take the job? He would, and did. And that is how he became Sum Eney, the trouble-shooter, though the evolution into the sharpshooting trouble-guy we know today was, of course, more gradual.

Sum's association with the Harris



company was a long and happy one. But one day opportunity beckoned in another direction. The story of how he went with the Champion Paper & Fibre Company, where he is now and has been for the past fourteen years, has been told many times. He and George Heintzman,

now president of Dexter Folder, but at that time with West Virginia Pulp & Paper, friends of long standing, met one day on the street after Sum had left Harris, and Heintzman asked him what he was doing. Sum replied that he was doing nothing at present, and why. Heintzman without another word grabbed him by the arm and hustled him to the nearest telephone booth. A long distance telephone call was put through to Alexander Thomson, Sr., president of Champion Paper, in Hamilton, Ohio. Heintzman talked while Sum ran back and forth between the booth and the cigar counter getting change for the toll. Before the call was over a meeting had been arranged between Mr. Thomson, Sr., and Sum, which resulted in his present job. Also, Sum, as he relates it, was out some \$38 in quarters and dimes. That had been the cost of the telephone call. And one other thing bothered him. He asked Heintzman about it:

"George," he said, "if I seem to be so valuable to a paper company as all that, why the devil didn't you hire me?"

Heintzman's reply, according to Sum, was "Good God A'Mighty Man! You don't suppose I want you around me, do you?"

Thus does legend grow up around a man. There is the story, for example, we had heard about the time Sum posed as a waiter and spilled soup in a diner's lap. The unfortunate victim was Fred Crowell, head of the machine composition firm by that name, at a Printing Supply Salesmen's Guild dinner. And while the true facts of the story must have become greatly embellished by now, those who heard it first as we did, much as our sympathy goes out to the unwitting victim, will be glad to know that Sum really did do it and that merry hell was raised over the incident, practically disrupting the dinner!

While we are about it, though, here's an Eneyism we'll have to kick in the pants. Sum won't mind, because it's all in good fun and it all lends color to the Eney

legend. Besides this one was promulgated by Sum for a good reason. Perhaps at one time or another, Sum has been heard to say that he has never been through the Champion plant at Hamilton. He has always said: "It's their job out there to make the paper. It's my job to tell 'em why it won't print. I never go near the mill."

Well, it just isn't so. Sum has been through the Champion mill, and excuse the pun. We have that on the authority of Alex Thomson, Jr. But lest we make a liar out of Sum, let us hasten to add, that while literally he has been through Champion's mill, technically speak-

ing he has not. His argument is, and from the standpoint of the printer and lithographer it is a logical and right one, that it should be the job of the paper maker to make paper according to the printer's and lithographer's needs, not according to the way the paper maker thinks the printer and lithographer should have it. So Sum draws a sharp line between his duties as a trouble-shooter for the printer, and his duties as a paper man, lest he compromise the former in favor of the latter.

First, last and always Sum Eney is a printer at heart. If you know that, you know everything there is

to know about Eney the man, and Eney the legend. His craft is his dearest possession. And he'll tear you limb from limb if you dare abuse it. And his hat'll be the first off to you, his manner as respectful as a bar-keeper in Heaven, if you but use it well. He was bred in a tradition when craftsmanship was looked upon as an obligation to the printing of the future, and when a printer thought that in serving his craft well, he was also serving his country. In his words two things intrigue his appetite: the smell of fresh-baked bread and printer's ink. May his tribe increase!

POSTERS FROM LATIN AMERICA



Recent examples of poster art showing how governmental departments in Latin American countries use the poster as a means of communication between the government and the people.



The poster above, put out by the Brazilian Bureau of Census, asks the question: "How Many Are We?" These are examples of Latin American posters now on exhibition at the Riverside Museum, New York.

The poster on the left announces a new format and type face for *La Razon*, Argentine newspaper.

pH SIMPLIFIED

IT IS only in recent years, that any serious attempt has been made by the lithographic industry to apply controls to the operations of its business. At the present time, we have a good beginning in this direction, but there is no doubt that many more will be necessary as we continue to progress. We now have air conditioning, the densitometer, automatic tray coolers, automatic exposure devices, pH control and several others.

Perhaps the least understood of all these is pH control. Control of pH can do a great job for you, and there are perhaps two reasons why an instrument for its control is not found in every litho plant. The first is that it looks quite complicated. The second is that its purpose is not generally understood.

In answer to the first reason it can be said that anyone that has intelligence enough to be a lithographic craftsman, should be able to use the average pH control instrument with less than twenty minutes instruction.

The fact that the purpose of pH tests are not generally understood, is perhaps due to the fact that most explanations of pH control are not boiled down to language that we, as layman, will readily understand. As a matter of fact, it is not necessary to understand it to get full value from the tests.

For example, how many pressmen understand what takes place when they press the button to start their press every morning? They see several wires running around

There are perhaps two reasons why pH Control is not standard practice in every litho plant, and both are because pH is not generally understood.

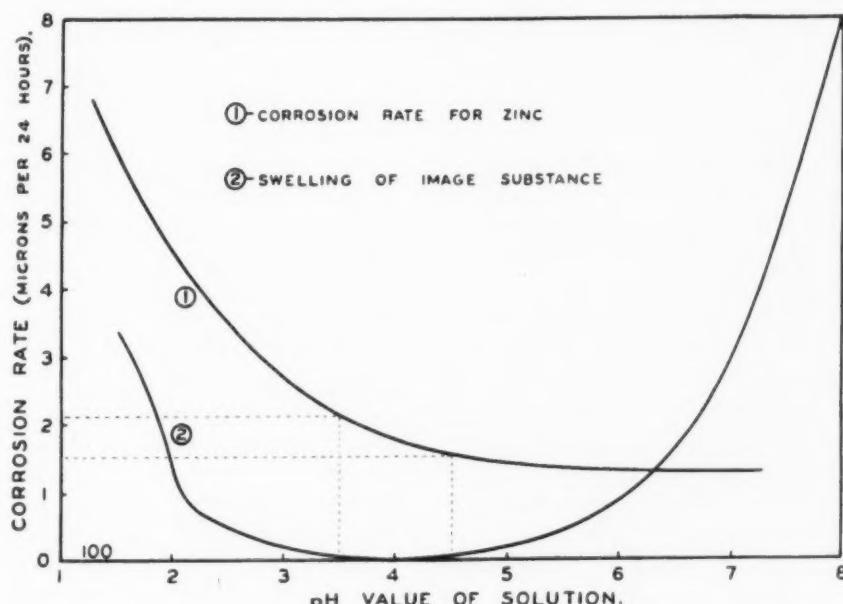
BY FRED KENDALL*

Kellog & Bulkeley Co.

the press, a motor or two, and a control box. Few, if any, understand what is taking place within these wires and electrical devices. Yet they will confidently press the various buttons with full expectation that the electrical apparatus

will do the job expected of it. If pH control is used with the same confidence that it, too, will accomplish the results expected of it, then it is not necessary to under-

*Before the Connecticut Valley Litho Club, Hartford, Conn., Feb. 6, 1942.



CORROSION OF ZINC PLATES AND SWELLING OF IMAGE SUBSTANCE,
AT VARIOUS pH VALUES

stand the theory of these tests if that seems too much trouble.

However, most of us prefer to know why we perform a certain task, and an explanation of pH control is not too technical. First and foremost should be exploded the common fallacy that seems to exist in most people's minds when they think of pH control. These tests do not tell the quantity of acid or alkali in your formula.

So many times a pressman will make the statement that he strengthens his fountain formula by adding more stock solution, or he reduces it by adding water. Such a statement proves to those who understand pH control, that this pressman would do a much better job if he used a control device. Testing the fountain solution measures the activity of the acid, and not the quantity that may exist in a given amount of water.

Suppose, for example, you added twice as much water as you normally would to your fountain solution. In such a case you have cut the volume of acid in half, but changed the activity but very little, and your pH reading would show only a minor change. About all that is accomplished by adding water, is to destabilize the solution, which would make it subject to more rapid change than normally would be true.

What you should do to change the quality of your fountain solution, is to leave the water content alone, and change only the acid activity. A few drops of phosphoric acid, more to increase the activity, less to decrease the activity, is all that is needed to give you whatever change may be necessary in your fountain solution.

It is just as true that a platemaker who is using the "straw color" test for the addition of ammonia to his albumin solution should change over to pH control. If there is any platemaker who doubts this, let him check his "straw color" tests against true pH values for a week, and he will be convinced that pH control is the only accurate way of being sure that the alkalinity of his plate

coating solution is the same from day to day.

Inasmuch as the pH value affects the exposure time, development and keeping qualities of albumin coating, it is readily seen that a definite standard of pH value should be maintained. It is one of the most important steps a platemaker can take if he is to turn over to the pressman, plates of uniformly good quality.

Not infrequently will you hear someone ask, "Why should I use pH control as long as I get along without it?" That is a fair question and deserves a fair answer. The platemaker should expect fewer rejections as his plates will be more uniformly made. The pressman should expect longer runs from a plate, fewer stops during the run, and much more uniform quality throughout the job. You eliminate one more cause of scumming, and if you examine a pile of printed sheets there should be no difference between the first and last sheet, except what might be expected from natural wear of the plate. In short, it will help to smooth out your production schedule as well as improve quality.

IT will help to understand why these things happen by referring to a simplified chart which was made by the Lithographic Technical Foundation (page 31). Line two on this chart shows that an albumin image swells the least between pH 3.8 and pH 4.8. This means that as far as protecting the image from swelling is concerned, you can use a fountain solution anywhere between this range. As a practical measure this cannot be done on zinc plates as they are quite sure to scum as you get near the pH value of 4.8.

To find the reason for this we must consider the second matter shown by line one on this chart, which is the corrosion rate. As we all know some metal must be constantly dissolving from the plate in order to keep the plate clean. This is known as the corrosion rate. Follow the dotted lines on the chart and you will find that the corrosion

rate at pH 4.8 is about 1.5 microns in 24 hours, while at pH 3.8 the corrosion rate is 2.1 microns. By actual trial on a running press you will find the greater corrosion rate of 2.1 microns is needed to keep the plate clean.

This means that 3.8 is the best pH value for fountain solutions, as long as your plate runs clean. Sometimes, however, the paper or ink may bring about a condition that will cause a scum at this value, and you may have to go to a pH value of 3.4 to overcome this condition. It is true you have then reached a point where the image will start to swell. However, it is better to accept this condition, than to give a plate the abuse that comes from constant stopping of the press, and etching the plate to temporarily eliminate scum.

An illustration showing how outside materials, such as ink, can effect your fountain solution may give a clearer understanding of why it may be necessary to occasionally change the pH value of your fountain solution.

An extraction made from an ink having a pH value of 6.0 and a fountain solution having pH value of 3.4, was tested in the ordinary manner. The result showed that the ink had changed to 3.8 the pH value of the fountain solution.

This test was made from an actual job that was running on the press, with the plate constantly scumming up. By changing the solution in the fountain to pH 3.0 the job ran clean and there was no further difficulty.

The results here showed rather conclusively that while the solution in the fountain was satisfactory, the solution that was acting on the plate was not. The reason being, that the ink was changing the solution on the plate to such an extent that it was no longer able to keep the plate clean.

An ink with a pH value of 6.0 is unusual and it is doubtful that very many of you will run up against that condition. Most inks, and this means ink that has been doped up with varnish, drier, and

(Turn to page 59)

HIGHLIGHT HALFTONES

A description of the various methods now in use for improving original copy.

WITH practically all printing processes there is a limited tone range that can be reproduced successfully. The very nature of the halftone process has a tendency to further suppress the tone range capable of reproduction. As applied to the lithographic process, the combined action of these two limiting factors often makes it desirable, if not entirely necessary, to alter the tone values of the reproduction somewhere along the line if the final result is to be forceful and pleasing.

Since very little can be done to overcome the limitations of the printing process on the press itself, it is only natural that the necessary correction must be made at some prior stage. Alterations of the image on a lithographic plate are not only hazardous but the results obtained are unsatisfactory. The two remaining steps which permit of proper manipulation are, namely, the halftone negative and the copy. Since relatively few lithographic shops have complete control over their copy, the halftone negative must assume the full burden for tonal corrections either in its creation or by after-treatment.

The copy, nevertheless, can assume an important part in a successful highlight technique. One outstanding method depends entirely upon the copy to produce a drop-out highlight that in no way distorts the tonal scale or eliminates delicate detail and highlight tones. In view of such perfection more emphasis should be placed on the copy itself as a major function in the highlight technique. Since the

copy is only a means to an end, we should learn to consider it as the first stepping stone to a satisfactory reproduction. Therefore the copy should have the necessary characteristics regardless of what its visual appearance may be.

As a general rule the highlight region is the tonal area that suffers most in the lithographic process. By special treatment it is possible to influence this highlight region when making halftone negatives. Screened negatives made in such a manner are classified as "highlight halftones." The highlight effect may be merely to accentuate the contrast or brilliance of the image by diminishing the dots in the lighter tones or it may be a complete elimination (drop-out) of tone in the highlights. A highlight technique may be resorted to in order to enhance a reproduction from poor copy. It is also used to increase the contrast of an illustration for the purpose of making a product or object stand out from the surrounding area. Finally, as in the case of fashion illustrations, it may be desirable to eliminate all tone from the highlight as well as from the background.

Occasionally in an ordinary half-

tone there may be a need for a simple highlight effect. In many cases it would be foolish and unnecessary to engage in a complicated highlight technique if the application of a negative stain or opaque will produce a satisfactory result. Although simple, the opaquing or staining procedure is satisfactory in only a few cases in view of the sharp line of demarcation between the drop-out and the adjoining tones. When a truer tone rendition is desired, it becomes necessary to resort to photographic means. The term "photographic means" in regards to highlight negatives refers not only to camera technique but includes special copy preparation, special equipment, supplementary photographic manipulations and after-treatment of the halftone negative.

The available highlight methods may be classified according to the manipulations and equipment involved as follows:

- (a) Processes involving special copy preparation: such as, retouching, overlays, (stencils or masks), etc., but capable of accomplishment with ordinary camera equipment.
- (b) Methods involving special ma-

terial for copy preparation and extra camera equipment.

- (c) Highlighting effects obtainable by the use of masks photographically obtained with little if any special equipment.
- (d) Photographic halftone procedure based on the use of a large lens opening.
- (e) Odd shaped and eccentric diaphragm stops used in conjunction with ordinary halftone procedure.
- (f) Slight lateral screen movement.
Note: Methods (c) and (d) will prove most practical if the camera equipment includes a compensator and a sliding or elevating screen mechanism. The above camera equipment is also necessary for method (b) but for method (a) it is desirable but not entirely necessary.

Most of the methods which come under group (a) may be considered an improvement upon or deviation of the simple opaquing and staining procedure previously described.

The first such method to be considered entails the use of a halftone negative which has been made in the usual manner. From this negative a contact positive photo print is made on a contrasty glossy AZO or similar paper. On this print the highlights are retouched with Chinese white, solids strengthened with India ink, detail may be improved and lines, borders, etc., ruled in. The retouched print is then copied in the manner of a line negative.

IN the following summary the copy referred to includes black and white photographs and various types of art work drawn in neutral tones. Colored copy can not be handled as outlined by the following methods because of the color contrasts involved.

If it is permissible to retouch or otherwise alter the copy, the following technique is highly effective when working from photographs. The print is first treated in a dye bath so that it attains a uniform over-all yellow tint. Most any yellow photographic stain will prove satisfactory. After the dye treatment, the print is dried. The high-

lights are then retouched with Chinese white to which, in some instances, a small amount of blue coloring matter may be added. The print is then photographed through a yellow filter. A normal halftone technique is employed. At the conclusion of this normal halftone exposure the yellow filter is removed and a short auxiliary exposure given at a lens opening considerably larger than normal. The duration of the highlight exposure is determined on the basis of the degree of highlight effect desired. If a minute highlight dot is to be retained, the exposure must be short. The screen may be kept at its usual distance during this exposure. If complete veiling over of the highlight dots is wanted, the exposure must be increased slightly and the screen moved forward or removed completely. In any event the highlight exposure must not be prolonged to the point where the yellow copy begins to expose. Within the limits of practicability, the length of exposure and the size of the lens opening may be varied to suit the result desired. To completely insure that the copy will not expose, a light blue filter may be used during the highlight "flash." Orthochromatic film must be used with this and the following methods.

A similar technique may be used on other types of copy as well as photographs by substituting yellow cellophane or celluloid for the dye bath. The cellophane (or celluloid) is firmly attached to the surface of the copy. The retouching is then applied to the cellophane. The remaining photographic manipulations are exactly as previously outlined, for an obvious advantage of this procedure is that there is no mutilation or alteration of the copy.

Another deviation of the above method entails the use of a transparent material, such as, clear lacquer, collodion, or artists' fixative. To this is added a transparent yellow dye and the resulting mixture is sprayed over the face of the copy. A thin and uniform film must be obtained, otherwise spottiness and degraded tone values

will result. The retouching is then applied and the camera technique carried out as explained above. With this method, the filter material firmly adheres to the copy, thus eliminating any possibility of shifting of the overlay.

In cases where the lithographer can exercise control over the preparation of the copy, the following procedure will produce results identical with those obtainable from the above-mentioned methods. There will be considerable time saved since after-treatment of the copy will not be necessary. The first requisite is a substitution of a yellow or buff drawing board for the usual white bristol board. The second necessity is the use of brown or sepia pigments in place of neutral grays and blacks. The highlights of course are drawn in with Chinese white. In the case of fashion illustrations where a drop-out may be desired in the background, a white drawing board may be used. With this latter combination the cameraman must exercise greater care in the length of his highlight exposure. It may be necessary in this connection to use a pale blue or green filter during the flash exposure.

With cameras that have open face copyboards it is possible to use a relatively simple technique as follows:

An overlay in the form of transparent yellow or red celluloid is attached to the copy in the form of a flap, i. e., it is hinged so that it can be removed or placed over the copy without disturbing the register or position of the copy. With the overlay in place, the highlights are drawn in with Chinese white on the surface of the celluloid. A normal halftone exposure is given without the mask in place. The overlay is then brought into position over the copy and a short exposure given with a lens opening 1 to 2 stops larger than normal. During this highlight treatment the screen is either advanced or removed (if removed a screen compensator must be employed).

Because the colored overlay is in place only during the highlight



Examples of drop-out highlights and background by the "Fluorographic Process," developed by Printing Arts Research Laboratories, Inc., Santa Barbara, Calif.



"flash," there is no need to use a filter during the main halftone exposure. Emphasis is placed on the use of an open-faced copyboard for this method. With glass-covered tilting copyboards there is a possibility of movement of the copy when the overlay is moved into place or a shifting of the copyboard when it is again tilted to its operating position.

THE latest methods involving special copy preparation make use of the phenomenon of fluorescence. Certain substances have the ability to absorb ultra violet light and convert it into visible light. Ultra violet rays are invisible but most forms of white light (sunlight, incandescent, carbon arcs, etc.), contain a certain percentage of ultra violet rays. A fluorescent substance becomes visible in darkness in the presence of ultra violet rays. When illuminated by white light containing ultra violet, the fluorescent substance not only reflects part of the white light but in addition fluoresces. Because of the greater volume of white light the fluorescence is not noticeable. In converting ultra violet rays into visible light, the fluorescent sub-

stance absorbs partially or completely the ultra violet rays falling upon it. It is possible to obtain a photographic exposure from the light emitted from a fluorescing substance. If a duplicate exposure is made but with an ultra violet filter over the lens, no effect will be made on the photographic film. This negative result is due to the complete exclusion of all light rays other than ultra violet by the filter and the complete absorption of ultra violet light by the fluorescent material.

Utilizing this reaction, the "Fluorographic Process"** has been de-

* The Fluorographic Process is a copyright title and the process, equipment and applications are controlled by patent by Printing Arts Research Labs., Inc., Santa Barbara, Calif.

veloped and made available to the graphic arts. Although the process can be applied to any copy including photographs, it is most practical when the copy is prepared exclusively for the Fluorographic method.

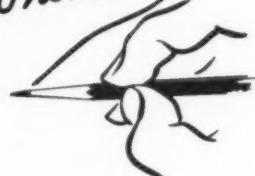
In application the process consists of two steps: first, preparation of the copy; there are no radical changes involved nor is any additional time required for the preparation of fluorographic copy. The artist may continue to use his favorite water-color pigments (neutral) providing they are transparent. Instead of using water as a solvent for his drawing media, he simply substitutes for it the special

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Washington Letter

By Jay A. Bonwit



AS developments in the Far East pinch off supplies of critical materials, the lithographic industry faces the necessity of gearing its operations to the war economy on a give-and-take footing—a policy that means limitations on the one hand, and some degree of concession to the industry on the other. Already the industry has experienced both factors of restriction and concession, and indications are that, with the industry cooperating, a fair balance is likely in the future.

It is inevitable that there will be increasing restrictions on materials, and the day of business-as-usual is long passed. The Far Eastern developments, with their parallel problems of inaccessibility of some supplies, shipping difficulties and the general problem of war production demands on the availability of materials, will be increasingly felt by all segments of industry, lithographers among them.

However, the lithographic industry, by its very nature as well as its importance to the general economy, is in a better position than many civilian industries.

Primary consideration in evaluating the publishing and printing industry's position in the war economy is the dual factor of the large number of men employed and the industry's high payroll. The in-

dustry's claim on materials is bolstered by the fact that it is the nation's sixth largest industry, employing approximately 566,000 men, who receive the highest individual wages, with its products valued at more than three billion dollars.

Because of these factors, many quarters of the War Production Board hold that stabilization of the industry is of vital importance in maintaining the civilian economy.

Nevertheless, limitations on the use of many materials and other restrictive measures can be expected, and the keynote of the give-and-take policy will be the industry's cooperation in the various restrictions which are in prospect for the industry. Example of this need for cooperation is the proposed scrap order which will bring out of hiding all dormant metals held by the industry. (See column on "War and Lithography" this month.)

The factor of cooperation is highlighted by the need of integrating the efforts of the many divisions, branches and sections within the War Production Board, each of them concerned with a particular industry or a particular commodity or material. With hundreds of industries making claim to a limited supply of materials, the industries which can show a more complete record of cooperation are in a better

position to obtain consideration for their future needs.

In the case of the proposed scrap order, lithographers and printers will be required to turn over all forms of printing plates which have not been printed on for the last three years. They will be required to tell how many pounds of dormant metal they are holding, and why they are holding it. The order further provides that they must prove, on demand, their reasons for holding the metal. The industry's cooperation in conservation of materials and maintenance of equipment is vital, and if pursued to the maximum, can have the effect of minimizing the impact of restrictive measures.

This approach is of importance to the industry in all materials, and specifically in the case of paper. Currently, there is no overall paper shortage, and it is the feeling of the Printing and Publishing Branch that in the absence of any severe shortage, savings already being made by the industry are sufficient to meet current problems.

On the other hand, certain WPB sources contend that to meet possible future shortages, drastic curtailment policies should now be adopted which admittedly would be uneconomic in their operation and would work considerable hardship on the lithographic industry.

One such curtailment plan is a proposal to fix drastic limitations on maximum paper weights. (See column on "War and Lithography" this month.)

The Printing and Publishing Branch, however, maintains that the industry can be counted on to cooperate to the extent of making whatever economies in pulp are necessary, and that restrictions such as the proposed maximum weight limitations, are not essential at this time. As a result, this plan is being withheld for the time being.

Large-scale pulp demands under the Lend-Lease program may have the effect of shortening supplies of some types of paper. When and if these shortages develop to the point where restrictions become necessary, the Printing and Publishing Branch indicates that it will issue the rulings to cover paper and transportation problems. Under current conditions, lithographers are reminded that their cooperation depends on a conservation policy geared to the use of as light a paper as practical.

ONE of the most severe restrictions on lithographers is the proposed order curtailing use of color inks. Perhaps 30 per cent of former uses will be cut on the inks using materials which originate in the Far East. Inks using chrome, tin, tungsten and molybdenum are on the restricted list.

While these limitations will provoke considerable difficulty within the industry, there will be no restrictions on blacks, of course, or on iron blues, including milori and prussian blues. Use of these inks can continue at 100 per cent levels under terms of the proposed order, with the restrictions falling primarily on chrome yellow and orange, chrome green and molybdate orange.

The rubber order, permitting the industry to use 80 per cent of the amount of rubber used in the year ending March 31, 1941, for specific purposes, will probably be extended to include an additional number of printing and publishing uses—possibly three or four.

Some confusion has developed over questions that have been raised by the industry concerning application of M-9-c, the copper conservation order, as it relates to bronze powders. One question deals with the problem of whether bronze powders can be used by lithographers after March 31, if the material was on hand, and the other question concerns the re-use of washed powders.

The Printing and Publishing Branch holds that the copper order limitations are on the manufacturer of copper products, and not on the ultimate user, such as the lithographer, if he has stocks of bronze powders on hand. In the case of re-use of washed powders, the Branch holds that they can be used again since they are of no value to any other user. Both of these issues are subject to the interpretation of the Copper Branch of WPB.

In conclusion, the Printing and Publishing Branch hopes to be able to avoid undue hardship on the industry and has indicated that it has no intention of interfering with the freedom of the industry. On the other hand, the industry will be expected to conform to all regulations and policies laid down by the War Production Board, which have the double purpose of winning the war and helping the industry make its adjustments to the war-time economy.

New Book on Book Publishing

Grosset & Dunlap, New York, have just published "The Book From Manuscript to Market" by Leonard G. Winans, the purpose of which has been to present in a single volume the story of paper, printing, engraving, and binding in their relation to book making, and of the manuscript and the relations between author and publisher, and between publisher and the book manufacturer. Mr. Winans covers every step essential to the making of a book, tracing the origin and history of each process, as well as presenting in non-technical detail the most modern methods of the book-making field. An interesting

chapter devoted to lithography describes the process, giving a brief outline of its history, and explains some of the advantages and disadvantages of offset for book production.

Merck Names Beekley

N. S. Beekley has been appointed special sales representative to the graphic arts trades by Merck & Co., Inc., Rahway, N. J., succeeding P. H. Staub who recently resigned that position to join Anken Co., Newton, N. J., distributor of photographic materials.

Mr. Beekley joined the Powers-Weightman-Rosengarten Co. in 1907, where he served in many capacities, including that of advertising executive and sales specialist in the importing and exporting department. In 1927, when Powers-Weightman-Rosengarten Co. merged with Merck & Co. to form the present organization of Merck & Co., Inc., Mr. Beekley became a member of the general sales division. He brings to the graphic arts industry more than 25 years experience, and a practical knowledge of the application of chemicals in both industry and the arts.

Publishes Halftone Guide

The Waltwin Publishing Co., 1776 Broadway, New York, has a new book, just off the press, entitled "Halftone Photo-Lithography." The volume carries nine glossy prints with lithographs from these prints, some on offset and some on coated stock; with complete instructions, step by step, from sizing up the copy to camera board, adjusting of camera, taking the shot and developing the negative in the dark room. Cost of book \$4.00, plus postage.

New Members to NAPL

The National Association of Photo-Lithographers has announced the following new members, all of Chicago, as of last month: M. L. Amoreaus, 330 South Wells Street; Ringer Press, 5616 W. 63rd Place; Workman Manufacturing Co., 1200 W. Monroe Street.

War and Lithography

Please bear in mind that the war picture is a rapidly changing one and that this is a monthly report. The facts reported herein represent the latest available information at the time of going to press. They may change overnight.

PERHAPS the most serious development this month along the war front so far as the lithographic industry is concerned has to do with the supply of zinc for lithographic plates. The War Production Board has suggested that supplies of new zinc for lithographers may be stopped. On hearing this news the Lithographers National Association, New York, promptly got out a questionnaire to the entire industry asking for inventories of zinc plates, ungrained, grained and regrained, in fact, zinc plates of every kind; and what part of the total are zinc plates which cannot be freed for toll rolling and conversion into new lithographic plates because they carry original engravings and art work which will be used again. Lithographers were urged to return the filled-in questionnaires with every possible speed. The letter accompanying the LNA questionnaire follows:

The War Production Board in Washington has intimated to us that supplies of new zinc for lithographic plates may be stopped. In view of a critical shortage of zinc, and the lithographic industry's dependence upon zinc plates now that aluminum is not available, the WPB has demanded that we get for it immediately figures for the entire lithographic industry to show how much zinc there is in the industry at the present time. Its purpose in demanding these figures is to be able to estimate how long the lithographic in-

dustry can continue without plant closings with no new zinc supplies. The WPB hopes that the lithographic industry, if shut off from new zinc plates, may be able to continue without a serious number of plant closings if lithographers are permitted to continue to turn in old zinc plates for remelting and rerolling into new lithographic plates.

The entire lithographic industry is asked in the form of a questionnaire for figures which will give the WPB the information it must have immediately. The first question asks for total zinc inventory—zinc plates of any and all kinds. The second question asks for the amount of zinc included in the total over-all figure not free for remelting and rerolling into new lithographic plates without serious loss of valuable or irreplaceable original work definitely needed for future jobs. On the other hand, lithographic press plates,

when they can no longer be regrained and reused, can be promptly scrapped.

We have seen how quickly and firmly the WPB acts in shutting down civilian production when it interferes with the defense production. The lithographic industry is no exception and if we want WPB cooperation in helping the lithographic industry to continue operation with the minimum amount of plant closings and damage to the entire industry because of shortages in critical raw materials needed for defense, we must cooperate now.

APROPOS of the above regarding zinc plates which cannot be freed for toll rolling and conversion because they carry work which may have to be used again, the National Association of Photo-Lithographers, New York, has suggested that lithographers send to their customers a return postcard as follows:

It has been our policy to hold plates whenever there was a possibility of a rerun to avoid the expense to our customers of making new plates. We now find that it is impossible for us because of the shortage of platemaking materials to hold plates longer than thirty days. So that we can use our metal over again, we would like to have you fill in the information below on plates which we are holding for you.

Hold the plates on the XYZ job.
We plan to reorder on or about.....
Hold the plates on job XYZ. We are not sure about reordering.

Please contact us on or about.....
Kill this plate. We will not reorder.
Form No.....

Authorized by
Date.....
Firm Name

ANOTHER development of major importance to the lithographer in this month's war news is the proposal by the War Production Board of maximum substance weights for paper. In a bulletin issued on learning of the proposal, the Lithographers National Association comments on the effect it would have on the lithographer, as follows:

The War Production Board is proposing to save annually over 150,000 tons of paper by setting the maximum substance weight above which a specific type of paper shall not be manufactured. There is enclosed a copy of the proposed maximum substance weights under consideration now by the WPB. (Copies are avail-



able by writing to the LNA, 420 Lexington Avenue, New York.) You will note that there are two sets of maximums given, one in the column headed Step 1 and another in the column headed Step 2. The chances are that if any such limitation as this is adopted, Step 2 will constitute the maximums.

Limiting the maximum weights of various types of paper would obviously accomplish a saving in paper and pulp. However, the result on the lithographer and printer would be very serious. It seems to us that the same saving can be made in paper and pulp through other means, such as cutting down the size of margins and other unprinted areas on the sheet and in using lighter weight papers wherever physically possible. Such use of lighter weight stock, however, must be left to the determination of the Graphic Arts Industry itself, with its knowledge of the technical problems involved in lightening the weight of papers. For example, the use of lighter weight papers on color jobs requiring even normal registration would in many cases slow down the speed of the press considerably in order not to have a tremendous wastage of paper through spoilage at the higher speeds. This would add greatly to the cost of production.

In our opinion, the job of saving paper and pulp is one which the Graphic Arts Industry should undertake voluntarily itself with its knowledge of how this can successfully be done. We believe that there should be no arbitrary limitation of maximum substance weights by the War Production Board if the Graphic Arts Industry can accomplish the same saving but with far less harm to production methods.

If you believe as we do, write to John M. Wolff, Jr., Chief, Planographic-Related Services, Printing & Publishing Branch, War Production Board, Temporary Building "E," 3rd Wing—3rd Floor, Washington, D. C., protesting the establishment of arbitrary maximum substance weights for paper and asking that the Graphic Arts Industry be given an opportunity to patriotically cut its own consumption of paper and pulp and effect an equal or even greater saving than that contemplated by the WPB in its proposal.

LAST month also saw the issuance by the War Production Board of a new order which practically curtailed all civilian use of aluminum. The new Aluminum Conservation Order M-1-e prohibits the use of aluminum in any manufacture except on war contracts and the 15 items specifically set out in the order. The only exception is that aluminum authorized by the Director of Priorities after October



Baltimore held an exhibition of war art last month. Included were many lithographed posters.

31, 1941, and prior to the effective date of this order, may be used for the specific purpose set forth. For sometime lithographers have been unable to obtain new aluminum press plates. Now with the severe restrictions of Conservation Order M-1-e, it will no longer be possible to have scrap aluminum rerolled under toll agreement into new plates. Some lithographers have on hand stocks of aluminum ink, paste, powder, or leaf. Accordingly, therefore, the Lithographers National Association asked the Printing and Publishing Branch of the War Production Board for a ruling which would allow lithographers to use up stocks of these aluminum materials. The LNA received the following reply:

In reply to your recent inquiry Conservation Order M-1-e released on January 23rd, effective immediately, prohibits the use of aluminum in any manufacture except on war contracts and fifteen items specifically set out in the order. The items permitted to be manufactured have no direct application to the Printing and Publishing Industry. The position of this industry has been reviewed with the Aluminum Section attempting to obtain clearance for usage of stocks on hand, and the Aluminum Branch, Materials Division, War Production Board, has provided the following rulings:

- (1) *Ink and Paste.* Any aluminum ink on hand may be used on current work without obtaining permission of the War Production Board. (However, it is suggested that printers employing aluminum ink file appeal—method outlined below.)
- (2) *Powder or Leaf.* Continue to use present supply on current jobs, but an appeal must be submitted within

one week marked "Appeal Reference M-1-e."

In the request for permission to continue the use of aluminum ink, paste, powder or leaf on hand, stating the amount you have on hand, refer to Section (e), page 3, of order.

In the request for relief, the following must be stated:

1. Name, address and general type of business.
2. Quantity, form, grade, and specific alloy of aluminum covered by appeal, valued at \$.....
3. Whether you have the aluminum on hand, from whom and when obtained.
4. (Does not apply to this industry.)
5. The use to be made of the aluminum you have on hand.
6. If a preference rating has been assigned, state the preference rating, certificate number, and identify the contract or order and the customer.
7. The product into which such part (aluminum ink, paste, powder or leaf) will be incorporated and the end use to be made thereof: Examples: Ink—applied to label, wrap, etc. Leaf—title of book, etc.
8. The reasons, in detail, why alternate material cannot be used.
9. The total amount of aluminum on hand, and the amount of aluminum on hand of the particular type covered by your appeal.
10. Specific substitution for aluminum accomplished to date, if any, and the amount of aluminum saved per month with relation to former consumption, if any saving.
11. (1) Total number of workers and total number of man hours worked in the last week preceding date of appeal.
(2) Number of man hours, in total, that would be furnished by use of material covered by appeal that could not be furnished if appeal is denied.

The applications for relief are for the record primarily, to establish the legality of your use of the aluminum powder,

paste, ink or leaf you now have on hand. It is suggested that supplementary samples be attached to the appeal containing brief explanations of the use of existing material. Also, the statement that after the present supply is exhausted, no more will be purchased or employed in future production.

THE long-awaited Tin Conservation Order M-81, of great interest to metal lithographers, finally was issued February 11, after the National Canners Convention was over and done with for two weeks, and as issued it proved to be fully as drastic as had been predicted. The M-81 order bans the use of tin containers for beer, dog food, dried beans of all kinds, baking powder, cereals and flour, coffee, spices and tobacco and petroleum products. The order cuts the amount of tin plate to be allocated to can manufacturers by 37½% over the 1941 production. Packs are divided into four classifications, and can sizes restricted in each.

The first classification, Primary Products Cans, are unrestricted as to supply but are limited to certain sizes. Secondary Products Cans are limited as to sizes and amounts, usually expressed in terms of the 1940 pack. Special Products Cans are listed in a third table and allow principally for medical, pharmaceutical, dental, industrial and miscellaneous products. Non-essential products are any not listed in the three categories mentioned, and the use of non-essential cans is drastically restricted until March 1 and prohibited after that.

Restrictions on can sizes in all groups become effective March 1, 1942. Restrictions as to quantity become effective at once.

(The War Production Board on February 25 gave permission to tin can manufacturers to deliver until May 31 cans for packing beer, coffee, and hams, which were completely manufactured on or before February 11, and at the same time froze in canner's hands stocks of beer, coffee, and hams to be packed pursuant to this permission. Manufacturers are permitted also to assemble cans whose component parts were completely cut or lithographed by February 11, but when sold and packed with beer, coffee, or hams, these stocks must also be held subject to

disposition by the Director of Industry Operations. Canners are permitted to pack such cans, and beer, coffee, or ham cans in their possession on February 11, until May 31. These are also subject to disposition by the WPB. These provisions, included in telegraphic amendments to order M-81 on tinplate and terneplate are designed to prevent the waste of material unsuitable for other purposes, and in the cases of hams, to prevent spoilage. Can manufacturers are required to report to the WPB within ten days the number of beer and coffee cans which can be made from their stock of tinplate lithographed for such purposes. On or before the 10th of April, May, and June, canners are required to report the number and sizes of coffee and beer cans packed pursuant to today's permission. Canners of whole, shaped, halved, quartered hams, and "picnics" are to report results to the WPB within thirty days of the date of packing.

Lithographed motor oil cans which were completely manufactured on or before February 11 may be sold and delivered to canners until April 30. Telegraphic instructions sent to can manufacturers by the Director of Industry Operations suspend until April 30 restrictions imposed by General Preference Order M-81 on tinplate and terneplate in order to permit use of these cans, generally adapted only for packaging motor oil. Canners are permitted to accept delivery of such cans, and are also permitted to use completely manufactured motor oil cans in their possession on February 11, provided that none are used after April 30.)

Among the largest savings to result from the elimination of tin cans for certain products are: Beer cans, which last year used 1,600 tons; pork and beans, 1,440 tons; oil, 725 tons; coffee, 900 tons; tobacco, 200 tons; kidney beans, 200 tons; hominy, 150 tons; dog food, 820 tons.

In general, the order prohibits the manufacture of small-sized cans, resulting in an estimated saving of about 7% of the tin used by manufacturers during 1941. The bulk of the saving, however, will result from curtailment and even elimination of tin cans as containers for products which can be packed in other materials or which do not have to be canned at all, and from thinning the thickness of the tin plate coating on virtually all cans.

No restriction was placed upon the use of blackplate in the manufacture of cans, or upon the sale or

delivery of cans made wholly of blackplate or partly of blackplate and partly of some material other than tinplate or terneplate. In the definitions published by WPB, "can" does not include any closure, crown or cap to be used on, or as a part of, a non-metal container.

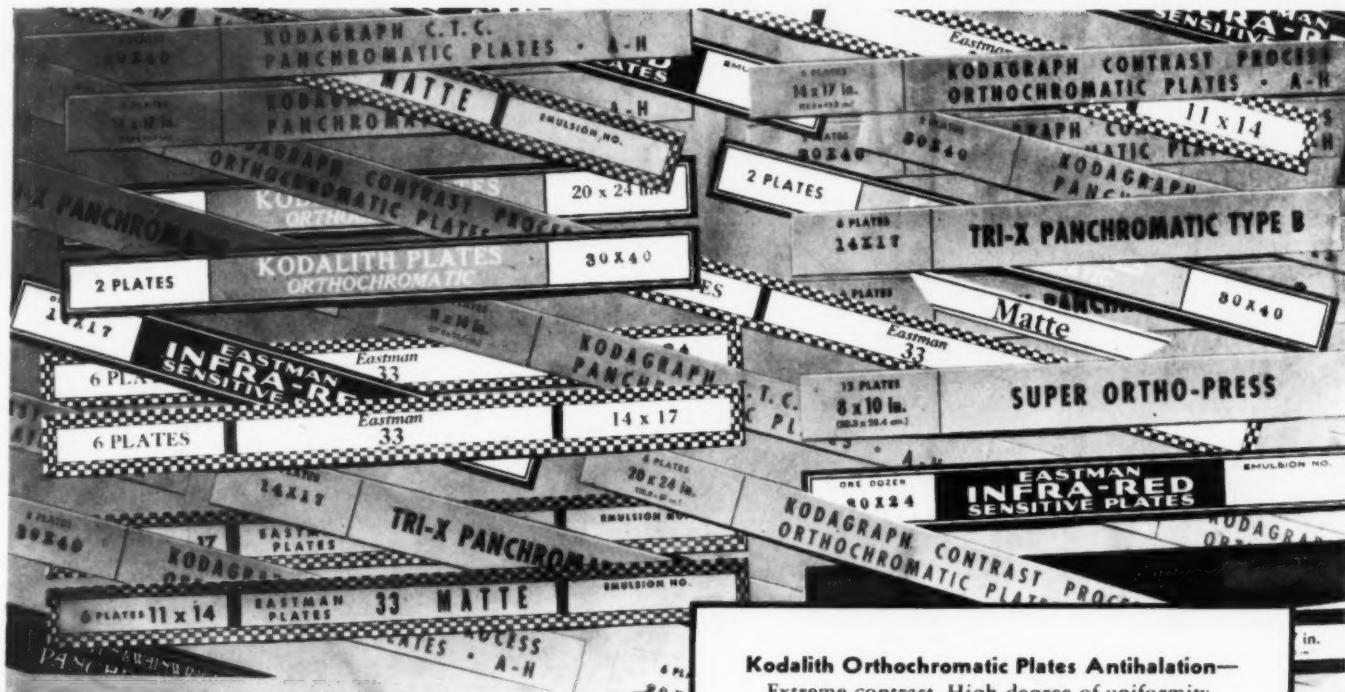
Two steel companies have announced plans for immediate expansion of electrolytic tin plating as a device for spreading tin thinner. New methods of welding and treating blackplate afford potential substitutes for some food-stuffs and certainly for such non-edible products as paint and oil. These experiments may well produce a non-tin can, made of steel with enameled plate and soldered without tin, which could outlast the war and make the U. S. more independent of foreign tin.

AN A-8 Preference Rating for stitching wire has been made available by the War Production Board for delivery of materials for the manufacture of stitching and bookbinders wire, essential to the printing and publishing industry. Producers are entitled to apply the rating to obtain delivery of the steel rods necessary to make stitching wire. The rating can be applied only for materials authorized on Form PD-82. WPB will determine these requirements on a quarterly basis, and it is expected that for the first quarter, a reduction of from 10 to 12 per cent from normal current usage of steel will be required.

Restrictions on use of steel in succeeding quarters may be greater because of the increasing military demands. WPB, therefore, urges every graphic arts establishment using stitching wire, to study its consumption and make every effort to conserve the supply, reduce waste and eliminate non-essential uses. The preference rating, applying only to round or flat steel wire used in the binding processes employed in the printing and publishing industries, was assigned under Preference Rating Order P-101.

It should be noted, cautions the
(Turn to page 59)

A COMPLETE LINE



An Eastman Plate for every purpose

EACH of the many Eastman plates is specially made to meet a particular photo-mechanical requirement—with emphasis on color reproduction and the maintenance of exact size. Whether it's high contrast, long scale, panchromatic ability, speed—at least one plate in the list is certain to fill the bill. And every type offers exceptional uniformity.

Eastman plates are all supplied in the full range of standard sizes up to and including 30 x 40 inches. Sizes 22 x 28 and larger are on $\frac{3}{16}$ -inch (.190) glass, and plates 11 x 14 and larger have ground or beveled edges.

Kodalith Orthochromatic Plates Antihalation—
Extreme contrast. High degree of uniformity.

Kodagraph Contrast Process Ortho Plates Antihalation—Fine grain. Extreme contrast.

Kodagraph C.T.C. Panchromatic Plates Antihalation—Direct-halftone color separations.

Eastman 33 Plates Antihalation—Continuous-tone positives. With and without a matte surface.

Eastman Super Ortho-Press Plates—For use in making the "red" and yellow printers in the Kodak Fluorescence Process.

Eastman Tri-X Panchromatic Plates, Type B, Antihalation—Continuous-tone separations. With and without a matte surface.

Wratten Panchromatic Plates Antihalation—For continuous-tone separation negatives.

Eastman Infrared Sensitive Plates—For the black printer, either direct or indirect.

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* * *

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New York, New York

Offset press operation

BY LAWRENCE GRENNAN

Mr. Grennan is a member of the offset department of the Hartford Fire Insurance Co., Hartford, Conn., and a member of the board of the newly-formed Connecticut Valley Litho Club.

LITHOGRAPHERS can support the War Production Program to a great extent. Many of the materials employed to produce our finished products are necessities which will help win the war. We can do our part by operating our businesses with a minimum of spoilage. The word sabotage could be used very effectively instead of spoilage. It is costly and unnecessary. The wastefulness of chemicals, plates, paper and ink, etc., are inexcusable. It is our duty to eliminate all wastefulness by standardizing our procedures and become more efficient.

As lithographers, most of the materials we use are manufactured by companies maintaining research laboratories, and capable, therefore, of supplying us with uniform quality. In this connection I cannot emphasize too strongly the importance of establishing a standard pH value for the water fountain solution. Although each shop will have to establish its own standard, for there are many factors to contend with in order to run a 3.8 pH or thereabouts—we have to consider the variations and characteristics of plate grains and coating solutions, inks and the amount of

water to run, paper and their coatings, humidity and temperatures, etc.—yet all these must be standardized before we can establish a standard pH value.

It is the responsibility of the pressman to determine how fine or how coarse the plate grain should be to meet the necessary requirements for the particular type of work he has to run. I like a fine, deep and sharp-grained plate for commercial work and halftones, and a deep, coarse-grained plate for color work. If we were to use a coarse grain for commercial and halftones, the screen dots would be broken up before we started to print, to say nothing of their being undermined by the water fountain solution. A fine grain plate for color work on the other hand would not carry enough water to keep the reverse letters and small type running sharp and open. The inks we purchase today are, ninety-nine times out of every hundred, of standard quality, yet inks will not handle the same in all localities. When such a condition exists, rather than experiment yourself, get in touch with the ink manufacturer. He will gladly cooperate.

The acid in the water fountain

may be too weak, causing the plate to scum and tint; or too strong, causing the ink to wash or bleed—and so on. There are the so-called "old timers" who can at a glance detect this, nipping the condition in the bud, but for the younger pressman I again recommend very strongly the use of pH control of the water fountain solution to determine the acidity and alkalinity values.

When handling the dampening of the plate here is the procedure I find practical: make sure the dampening rollers are not over-soaked with water when dropped on the plate, as the excess water will cause the printing areas to reject the full quantity of ink, which causes deterioration of the plate. Therefore, care should be taken when one soaks the dampening rollers to keep the plate in good printing condition so that the ink can readily adhere to the image. I recommend that a clean plate sponge should be dipped into a pail of water consisting of 3.8 pH value. When the plate is dampened it acquires a slight etch, keeping most tints from working up. It also keeps the image from scumming or thickening, which is detrimental to the life of a plate. The idea is in eliminating the trouble you will not have to give the plate a strong etch.

It takes skill and good common sense to keep a plate in its original printing condition throughout a long press run. The press adjustments must be set accurately; the ink mixed to suit the particular job, and the pH of the water fountain changed from time to time to compensate for the tendencies of the work becoming sharp, or to thicken. It is not advisable to start long runs with too weak a fountain solution. For example: if we were to use plain water in the water fountain, within a short time of running, the plate would begin to scum and tint. It would be necessary to give the plate strong etches, with the probability of weakening or blinding the image. It is advisable, especially for a new plate, to use a 3.8 (or

(Turn to page 59)

Offset paper at work

Another in the series on offset paper by Mr. Wheelwright, author of "Printing Papers," a definitive work on papers of all types for the Graphic Arts, recently published by University of Chicago Press.

BY WILLIAM BOND WHEELWRIGHT

THE simplification program recently announced by the Chief of the Pulp and Paper Branch of the War Production Boards calls for immediate study. The number of grades of paper and the stock sizes and colors are radically reduced during a "test period." Modifications may even-tuate if "undue hardship" results, but all planning ahead must contemplate the restrictions announced. These will not be felt until existing stocks of paper in the sizes, substances and colors to be eliminated have been used up. After that time offset paper of "irregular" substance weight or size may be obtained only in five ton making orders of "irregular" sizes, and in ten ton lots if the weight is "irregular."

Similar provisions surround all kinds of papers, so it is important to become familiar with what constitutes "irregular" substance weights, sizes and colors and what specifications are to be considered "regular."

Innovations are introduced governing the non-fibrous content of book paper, offset book paper, rag content bond and ledger paper containing wood pulp, cover paper,

sulphite bond and ledger, mimeograph and index bristol. These specifications are evidently aimed at securing at least a minimum amount of mineral filler in the grades specified so that the introduction of the mineral may lessen in certain cases the proportionate weight of fibres, thereby conserving to some extent the consumption of wood fibres. The minimum proportion of mineral filler prescribed ranges from 7 per cent in the case of sulphite bonds, for example, to 10 per cent in offset book and 15 per cent in other book papers. Some of these papers have always contained as much or more mineral filler than the minimum prescribed. The lines most likely to be affected seem to be rag content grades containing *some proportion of wood fibres*. The effect if at all noticeable will not appreciably affect the strength but may increase to some degree the opacity. The only fine papers from which mineral fillers have habitually been excluded are the high bulk book papers and certain high grade rag bond papers. The total effect of the new specifications controlling fillers need not seriously concern printers.

The reduction in the number of

stock sizes, and especially the elimination of some of the heavier substances are important to appreciate. Substance 24 bond paper will only be made in 100 per cent rag grades. The maximum weight for all others will be basis 20 lb., 17 x 22. In ledger papers only the 100 per cent rag grade will be regularly made in substance 32, i. e. heavier than the regular substance number 32. Ceilings are similarly placed over the substance weights of other kinds of papers, in order to make a ton of pulp into a greater number of sheets of paper. Exceptions to these rules are made in the case of orders exceeding certain specified minimum tonnage. The object here is to provide longer runs of paper which favor higher production.

The reduction in the number of regular colors permissible in various grades is also framed to favor greater production by the elimination of time lost for washing up after a change in color. These changes also operate to restrain the rising costs of manufacture, and this too, under prevailing conditions is beneficial to all concerned. The reasonableness of the entire program is such that it appears unlikely to be altered for the duration of the war. We will, on the contrary, be fortunate if further restrictions do not become necessary.

The offset printer will be less bothered by the ceilings on substance weights and the resulting thicknesses of available stock papers, than the letterpress printer, where photographic reproduction is involved. The latter is restricted for halftone printing in uncoated papers to a maximum of substance weight number 60 for E. F. and Super. He has the advantage in light weight of getting paper down to substance number 30 in E. F. The limits of weight for offset book paper range from basis 38 x 50—100 to 200.

No manufacturer will be permitted to make more than two different grades of any sort of uncoated book paper. This does not

(Turn to page 57)

IN AND ABOUT THE TRADE

Ace Carton Adds Offset

Ace Carton Corp., manufacturer of folding paper cartons and product display materials, has installed a new offset printing department in its recently constructed Chicago factory. A Harris 50 x 69 offset press was installed last month and additional equipment will be added shortly. The new factory is fully air conditioned and provided with humidity control. Other features of the plant are a paper seasoning room, a testing laboratory, and an automatic conveyor system for handling all work.

LNA Joins Ad War Council

The Lithographers National Association, New York, under the presidency of Milton P. Thwaite of Dennison & Son, is among the many advertising and graphic arts associations which have joined in forming an Advertising War Council, it was announced this month. Dr. Miller McClintock, who aided in the setting up of the Advertising Research Foundation, has been named managing director of the new Advertising War Council. The Council has been set up purely as a coordinating group and will not itself do any creative work. However, sponsors of the organization and affiliated members will work closely to help various government departments make the most effective possible use of available space and time.

A. F. A. to Meet June 21-24

The Advertising Federation of America announces that its thirty-eighth annual convention will be held June 21 to 24 in the Hotel Commodore, New York. The meeting will be planned as a "national round table on advertising in war time." J. A. Welch, vice-president of Crowell-Collier Publishing Co. and president of the organization, said that the convention will set a new pattern in A. F. A. meetings.

"It will be a war-time convention, with oratory cut to the bone," he said. It will also include an exhibit with the latest war-time advertising here and in Canada and Great Britain.

H-S-P Opens New Atlanta Office

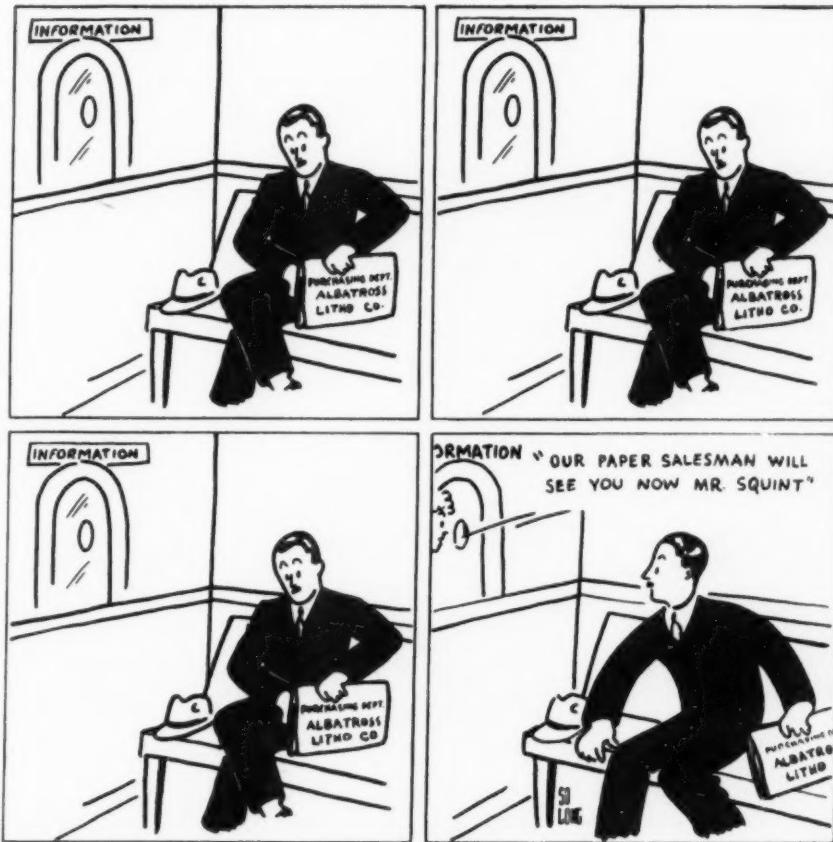
Harris-Seybold-Potter Co. announces removal of its Atlanta office to 220 Luckie Street, N. W. on January 17. Modern facilities for repairing and rebuilding lithographic and binding equipment are among the features of the new building and the company's service to its southern trade will in many other ways be increased to meet the business growth of this area.

With M. L. Mann, southern division manager, as host, many well known members of the graphic arts industry were present at the opening. From the Cleveland headquarters of Harris were R. V.

Mitchell, Harris president; H. A. Porter, vice-president in charge of sales; A. T. Walker, assistant sales manager; William Wood, director of chemical research, and Ralph Honeck, in charge of chemical demonstrations. Among those from the Seybold Division at Dayton were J. C. Dabney, sales manager; Glenn Baber, assistant sales manager, and W. R. Spiller, in charge of engineering.

Willard Lutter Dies

Willard Lutter, 43, foreman of the planograph press room at the Magill-Weinsheimer Co., Chicago, died February 9th at Hines Memorial Hospital for war veterans near that city. Death was attributed to after-effects of a gassing received in France during World War I. Mr. Lutter had been with Magill-Weinsheimer for twenty years.



MR.
LITHOGRAPHER,
do you
know
?

- ¶ What is being done to give you your necessary materials and supplies, under the ever-increasing requirements for war production?
- ¶ What priority ratings you are entitled to use to obtain scarce materials necessary to your business?
- ¶ What severe War Production Board restrictions are *now* in effect which limit not only the amount of materials of all kinds you can buy but also limit how much of your *own* inventory in your own plant you may use?
- ¶ Whether you can expect to get press plates when aluminum and zinc are so greatly needed in war production?
- ¶ What drastic controls on paper and pulp production, paper sizes and basis weights are almost certain to come?
- ¶ What the Lithographers National Association is doing for the Lithographic Industry to insure that War Production Board restrictions do not interfere with the production requirements of the industry to any greater extent than is necessary in the interest of National Defense?
- ¶ What the Lithographers National Association is doing for lithographers every day through constant watchfulness and action, when necessary, to keep the materials flowing and the wheels turning in lithographic plants?
- If you want to know the answers to these questions—and to the thousand and one other vitally important questions which confront lithographers every day in these critical times when patriotism and National Defense come before our own business—

Come to the 37th Annual Convention of the

LITHOGRAPHERS NATIONAL ASSOCIATION

EDGEWATER BEACH HOTEL

Chicago, Illinois

May 12-15, 1942

LNA Annual Meeting Slated for Chicago May 12 to 15

THE Lithographers National Association will hold its 37th annual convention at the Edgewater Beach Hotel, Chicago, May 12 to 15. In making this announcement, the association pointed out that the many serious problems facing the lithographic industry today indicated the desirability of choosing this year a centrally-located point where the industry—association members and non-members alike—might come together for joint council.

For a great many years the association has followed the practice of holding its convention at a resort location where there could be combined the advantages of a brief vacation with the serious business of the convention. In fact, not since 1922 when the convention was held in Detroit has the association held its convention in a large city. In that year, it will be recalled, the industry faced a serious labor situation calling for united action.

The lithographic industry today faces the most critical situation in its history. The shadow of the unprecedented demands, not only for raw materials but also for labor to carry out the Victory-War Production Program, lengthens across the path of this industry. It is by no means certain that an adequate continuing supply of machinery repairs, processing supplies and raw materials can be made available to maintain our normal activity. Threatening man-power problems also lie immediately ahead. This, together with the problem of dwindling markets and of unprecedented financial problems set the stage for this year's convention. The Lithographers National Association during the past year has bent its every effort and has devoted all of its strength and

resources to the single problem of keeping the lithographic industry on a functioning basis and in this same spirit of industry service the convention is being held at a time and place and under circumstances which invite every lithographer in the United States to be in attendance. The program that is now taking shape might best be described as a problem clinic where every lithographer will have full opportunity to share in the discussion of the problems of the industry and in shaping its future course.

Interestingly enough, war clouds were overhanging the scene when the convention was last held in Chicago, September 1916. That year the convention met at the Hotel Sherman. Chicago is a leading lithographic center in the United States and the Edgewater Beach Hotel situated on the North Shore Lake front is admirably suited to care for a convention such as this. Entertainment will, of course, be planned because relaxation is necessary if the most is to be gotten out of a serious business program. The chief emphasis, however, will be on the business side and not the entertainment features.

Frequent announcements will be made of the details of the convention as plans are developed. It is urged that every lithographer mark down the convention dates, May 12-15, and that you begin to make now the necessary plans for attending this meeting.

In place of its regular February meeting, the New York Litho Club made a tour through the New York Trade School on February 27 to view the litho classes, where plate-making, stripping, press work, dot

etching and other phases of lithographic production are taught. This special meeting was planned by the educational committee of the Litho Club, headed by William H. Carey of Sweeney Lithograph Co.

Dr. D. J. MacDonald and Mr. George E. McLaughlin of the New York Trade School Faculty guided the tour and explained the educational processes.

Mergenthaler Linotype Co., Brooklyn, gave a preview showing of its latest Linofilm, "Type Character," before a group of editors of graphic arts publications at the Roosevelt Hotel, New York, last month. Harry L. Gage, vice-president of the company, presided at a luncheon preceding the showing and spoke briefly about the new film, pointing out that it is now available to graphic arts groups. The new movie presents the story of type design and matrix manufacture from the first rough sketch to the completed product.

Christopher Browne, editor of *Modern Packaging*, discussed the "Effect of War Conditions on Labeling and Packaging" at a dinner meeting of the Young Lithographers Association held at the Advertising Club, New York, on February 18.

Craftsmen's Clubs of northern Illinois and southern Wisconsin will hold an inter-club bowling tournament at Beloit, Wis., April 18. Two teams will be selected from the Rock River Valley, Milwaukee-Racine and Chicago clubs and each team will bowl three games. Among players in the Chicago Craftsmen's Bowling League are numerous representatives of lithographing houses and ink plants. Three busses are to be chartered to take over 100 Chicago fans to Beloit.

Claude Powell, president of Marquette Lithograph Co., Chicago, was convalescing last month from an illness which had confined him to Billings Memorial Hospital, that city, during January.

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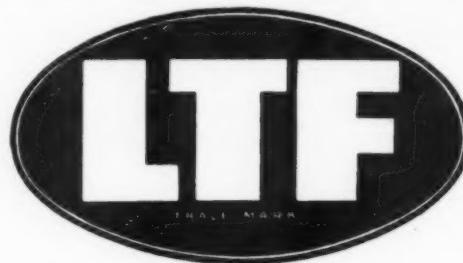


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Sinclair & Valentine Company

Sinclair & Valentine Company of Canada

Chicago Lithos Hear Beechem

Henry A. Beechem, head of Beechem Laboratories, Chicago, was guest speaker at the February 26th meeting of the Chicago Lithographers Club. Mr. Beechem's talk on "The A-B-C Chemistry of Lithography" covered three principle topics, buffer solutions, enzymes and bacteria.

Walter Leggett, newly elected president of the Chicago club, presided for the first time in his new position. Charles Listing, chairman of the Educational committee, had charge of the educational section of the meeting, following the customary dinner.

Mother of Harry Grandt Dies

The many friends of Harry Grandt, head of Roberts & Porter's New York office, were sorry to learn of the death of his mother early this month. Mrs. Grandt, who for the past several years had been living in New York, was buried in Chicago.

U. S. Wants Mapmakers

The United States Civil Service Commission, Washington, has asked that the following notice be published:

Map and chart making agencies of the Government are seeking skilled lithographers to produce the maps needed by our Army, Navy, and Merchant Marine. The Civil Service Commission has announced an examination to secure lithographers (artistic or mechanical) for positions paying from \$1,440 to \$2,000 a year. Because of the demand for qualified eligibles, applications will be accepted by the Commission until further notice. A written test will not be given; applicants will be rated on their education and experience.

For all grades, applicants must have had 9 months skilled, paid experience in a lithographic shop, in one or more operations used in lithographic reproduction work. In addition to this experience, for all but the junior grade positions, additional experience is required in one specialized phase of lithographic reproduction work, such as negative engraving, platemaking, work on plates or stones, press work, or other operations.

For the 9 months skilled experience required, applicants may substitute (a) 6 months' course at a lithographic school; (b) one year college study which included 6 semester hours in lithography; (c) one



New poster contributed by the Outdoor Advertising Association of America.

year appropriate night school or technical institute study; or (d) a U. S. approved defense training course in lithography. Applications will be accepted from persons who are now taking the college or technical institute study.

Copies of the examination announcement will be furnished upon request. These forms are also available at any first- or second-class post office. Persons who have been rated eligible under Announcement No. 148 for Artistic Lithographer issued October 31, 1940, need not apply for this examination.

Displays Lithographed Cartons

Milprint, Inc., Milwaukee, Wis., exhibited packaging materials suitable for use on frosted foods at meetings of leaders in the frozen foods industry held in Chicago during January. Lithographed cartons showing fruits and vegetables contained in the packages were displayed as well as printed cellophane and other wrapping papers. One exhibit was staged at the Hotel Sherman in connection with a conference sponsored by the National Food Distributors Association and another display was shown at the LaSalle Hotel. Milprint's Chicago sales staff was in charge of the exhibits.

Chicago Exhibit Opens June 9

The Chicago Society of Typographic Arts has set June 9 as the opening date of its 16th annual exhibition of Chicago Design in Printing. Chicago lithographers are being urged to submit entries in competition for the awards and citations which will be made for outstanding printed and lithographed specimens.

Addresses Paper Group

Fred A. Weymouth, chief chemist of International Printing Ink Corp.'s Chicago plant, addressed the annual convention of the Trade Association of the Pulp and Paper Industry held in New York last month. Reporting at length on investigations conducted in IPI's research laboratories over the past few years, Mr. Weymouth described a procedure which has been developed for determining the printability of paper by use of a Vandercook or other proof press. When the ultimate purchaser of printing examines his finished printed product, Mr. Weymouth pointed out, his main concern is solely with the printed appearance of the paper employed. Use of the new IPI procedure, he explained, reveals whether ink when transferred to a paper surface, will accurately reproduce the printing plate.

Hear Heitkamp of A. T. F.

Frederick B. Heitkamp, vice-president and general sales manager for American Type Founders Sales Corp., Elizabeth, N. J., addressed the Printers Supplymen's Guild of Chicago at its February meeting in the LaSalle Hotel. "Selling In a World At War" was the theme of his talk.

Fred W. Schramm Dies

Fred W. Schramm, 65, a lithographer, died last month at his home in New York. Mr. Schramm was a member of the New York Poster Artists' Association.

New Book on Offset Newspapers

"New Horizons For Journalism" is the title of a new text book dealing with the use of offset lithography for newspaper production, which appeared January 1. The author is James Fitzgibbon of the sales promotion staff of E. G. Ryan & Co., Chicago, and former managing editor of the Opelousas (La.) *Daily World*. Drawing on his experiences in conducting the first successful offset daily and his later contacts with many of the offset weeklies now in operation, Mr. Fitzgibbon presents a thorough study of the advantages and disadvantages of the offset process in the newspaper plant. Intended for use by students in collegiate journalism classes, the discussions are non-technical, although the technique of camera, plate work and press operation is described in detail. Numerous illustrations show typical installations of Webendorfer offset equipment in various newspaper offices. An appendix provides a list of periodicals and books of value to lithographers, and gives the names and addresses of trade schools which offer courses in offset operations. The 67-page volume, was lithographed by McKnight & McKnight, publishers, of Bloomington, Ill., and is available at \$1.50 per copy.

Offer Course in House Organs

New York University School of Commerce, Accounts, and Finance is offering a new course in house organs and trade journals conducted by Edmund S. Whitman, advertising manager of the United Fruit Co. Mr. Whitman, who has been associated with United for twenty years, has edited the company's external house organ "Fruit Dispatch," as well as the internal magazine "Unifruitco." The course began on February 4th and classes will be held on Wednesday evenings from 6 to 8 p. m.

Reorganize Rubber Division

The B. F. Goodrich Co., Akron, Ohio, has announced that its former mechanical goods and sundries sales divisions have been combined and will now be known as the Industrial

Products Sales Division. Announcement of the reorganization was made by W. S. Richardson, division general manager. Under the new set-up, J. M. Failey will be manager of the department covering printing rubber, printing rollers and printing blankets.

Add Lanston Equipment

Gerlach-Barklow Co., Joliet, Ill., added an M-H 4 photo-composing machine to its offset equipment early in January, this being the third which the company has purchased from Lanston Monotype Machine Co. in the past five years. Another sale of a similar machine was made to Jensen Printing Co., Minneapolis, through Lanston's Chicago office. George F. McKiernan & Co., Chicago, printers and lithographers, also installed a new 24-inch R O P camera and a complete imposing system in January, according to Lanston's Chicago representative.

Lithographs New Wine Labels

Lehmann Printing and Lithographing Co., San Francisco, recently lithographed a series of labels for a new line of California wines being marketed by Parrott & Co. under the name Hotel Del Monte Selections. The labels for each type of sweet wine were lithographed on a different colored background. The dry wine labels were executed on special stock, Beckett Textcorn color, giving them a very distinctive effect. Both types of labels follow the same general design so as to tie the packages for dry and sweet wine together when placed on the dealer's shelves.

Wins Award for Alcoa Advertising

Edward L. Andrew, of Fuller, Smith & Ross, Cleveland advertising agency, was awarded the top honor in industrial advertising for a series of advertisements entitled "Aluminum, Defense and You," written for the Aluminum Co. of America, in the annual contest sponsored by *Industrial Marketing*. Mr. Andrew, who is a vice-president of the agency, featured in the prize-winning copy the achievements of the Aluminum Co. in the national defense program. Some of the outstanding develop-

ments described in the series were: expansion of aluminum production by Alcoa, completion of a major portion of the company's \$215,000,-000 expansion program, reduction of the aluminum ingot price, and the company's temporary foregoing of civilian markets. C. C. Carr, advertising director of the Aluminum Co., was in charge of the series and with members of his department was instrumental in selection of copy themes.

F. & L. Agent for Wettsall

Fuchs & Lang Manufacturing Co., division of General Printing Ink Corp., New York, has announced that it is now the sole distributor for Wettsall L-10, the new wetting agent recently developed by the Wettsall Co., Boston. Wettsall L-10 is used for negative developing, plate cleaning, in albumen, deep-etch coatings and gum, and in the water fountain to reduce the amount of water run to plate and provide more even distribution of water.

Interested in India Agency?

Dear Sir:

We are dealers and importers of machinery and materials for the printing, lithographic, bookbinding, photo-engraving and allied industries. If any of your subscribers or advertisers are desirous of having active agents in this country to push their goods successfully and are interested in effecting agency arrangements, we shall be much obliged to you for your efforts to place such interested concerns in touch with us and thank you in advance.

Very truly yours,

Associated Agencies
Mount Road
Madras, India

H-S-P Stresses Press Care

"Maximum Performance With Minimum Press Wear," is the theme of the latest issue of *Harris Impressions*, house organ of the Harris-Seybold-Potter Co., Cleveland. The company points out in an editorial that its policy for the duration will be to place increased emphasis on the care of presses. In line with this purpose is an article which outlines the



Lithographed in 4 colors

WARREN'S Cumberland Offset

►PRE-CONDITIONED◄

WOVE & SPECIAL FINISHES

Postal regulations prohibit sampling of paper in this publication, therefore Cumberland Offset is not used for this insert.
Sample Book of all finishes of Warren's Cumberland Offset may be secured from your Warren merchant.

Leading
PAPER MERCHANTS
who sell and endorse
 Warren's Standard Printing Papers

ALBANY, N. Y.	Hudson Valley Paper Company
ATLANTA, GA.	Sloan Paper Company
BALTIMORE, MD.	The Barton, Duer & Koch Paper Co.
BATON ROUGE, LA.	Louisiana Paper Company, Ltd.
BIRMINGHAM, ALA.	Strickland Paper Company
BOISE, IDAHO	Zellerbach Paper Company
BOSTON, MASS.	Storrs & Bement Company
BUFFALO, N. Y.	The Alling & Cory Company
CHARLOTTE, N. C.	Caskie Paper Company, Inc.
CHICAGO, ILL.	Chicago Paper Company
CINCINNATI, OHIO	
	The Diem & Wing Paper Company
CLEVELAND, OHIO	{ The Petrequin Paper Company
COLUMBUS, OHIO	{ The Alling & Cory Company
	The Diem & Wing Paper Company
DALLAS, TEXAS	Olmsted-Kirk Company
DENVER, COLO.	Carter, Rice & Carpenter Paper Co.
DES MOINES, IOWA	Western Newspaper Union
DETROIT, MICH.	Seaman-Patrick Paper Company
EUGENE, ORE.	Zellerbach Paper Company
FORT WORTH, TEXAS	Olmsted-Kirk Company
FRESNO, CAL.	Zellerbach Paper Company
GRAND RAPIDS, MICH.	Quimby-Kain Paper Company
GREAT FALLS, MONT.	
HARTFORD, CONN.	The John Leslie Paper Company
HOUSTON, TEXAS	Henry Lindenmeyer & Sons
INDIANAPOLIS, IND.	L. S. Bosworth Company
JACKSONVILLE, FLA.	Crescent Paper Company
KANSAS CITY, MO.	Virginia Paper Company, Inc.
LANSING, MICH.	Midwestern Paper Company
LITTLE ROCK, ARK.	The Weissinger Paper Company
LONG BEACH, CAL.	{ Western Newspaper Union
LOS ANGELES, CAL.	{ Arkansas Paper Company
LOUISVILLE, KY.	Zellerbach Paper Company
LYNCHBURG, VA.	Zellerbach Paper Company
MILWAUKEE, WIS.	Miller Paper Company, Inc.
MINNEAPOLIS, MINN.	Caskie Paper Company, Inc.
	Nackie Paper Company
NEWARK, N. J.	The John Leslie Paper Company
NEW HAVEN, CONN.	Henry Lindenmeyer & Sons
	{ Lathrop Paper Company, Inc.
	Storrs & Bement Company
	Henry Lindenmeyer & Sons
NEW YORK CITY	{ Lathrop Paper Company, Inc.
	The Alling & Cory Company
	J. E. Linde Paper Company
	The Canfield Paper Company
	Marquardt & Company, Inc.
	Schlosser Paper Corporation
OAKLAND, CAL.	Zellerbach Paper Company
OKLAHOMA CITY, OKLA.	Western Newspaper Union
OMAHA, NEB.	
	Field-Hamilton-Smith Paper Company
	D. L. Ward Company
PHILADELPHIA, PA.	The J. L. N. Smythe Company
PHOENIX, ARIZ.	Schuylkill Paper Company
PITTSBURGH, PA.	Zellerbach Paper Company
PORTLAND, ME.	The Alling & Cory Company
PORTLAND, ORE.	C. M. Rice Paper Company
RENO, NEV.	Zellerbach Paper Company
RICHMOND, VA.	B. W. Wilson Paper Company
ROCHESTER, N. Y.	The Alling & Cory Company
SACRAMENTO, CAL.	Zellerbach Paper Company
ST. LOUIS, MO.	Beacon Paper Company
ST. PAUL, MINN.	The John Leslie Paper Company
SALT LAKE CITY, UTAH	Zellerbach Paper Company
SAN DIEGO, CAL.	Zellerbach Paper Company
SAN FRANCISCO, CAL.	Zellerbach Paper Company
SAN JOSE, CAL.	Zellerbach Paper Company
SEATTLE, WASH.	Zellerbach Paper Company
SHREVEPORT, LA.	Louisiana Paper Company, Ltd.
SPOKANE, WASH.	Zellerbach Paper Company
SPRINGFIELD, MASS.	
	The Paper House of New England
STOCKTON, CAL.	Zellerbach Paper Company
TOPEKA, KAN.	Midwestern Paper Company
TROY, N. Y.	Troy Paper Corporation
TULSA, OKLA.	Tulsa Paper Company
WACO, TEXAS	Olmsted-Kirk Company
WALLA WALLA, WASH.	Zellerbach Paper Company
WASHINGTON, D. C.	Stanford Paper Company
YAKIMA, WASH.	Zellerbach Paper Company

EXPORT AND FOREIGN

NEW YORK CITY (Export) National Paper & Type Co.
*Agencies or Branches in 40 cities in Latin America
 and West Indies.*

AUSTRALIA B. J. Ball, Ltd.
 NEW ZEALAND B. J. Ball, Ltd.
 HAWAIIAN ISLANDS Honolulu Paper Co., Ltd.,
Agents for Zellerbach Paper Company

PHILIPPINE ISLANDS A. C. Ransom Philippine Corporation



Appleton photo for Crescent Tool Co.

WARREN'S Cumberland Offset

►PRE-CONDITIONED◄

WOVE • SAXONY • HOMESPUN • LINEN • HANDMADE

WARREN'S Cumberland Offset is *pre-conditioned* by the exclusive process that has been used successfully on Warren's Label papers. Under average pressroom conditions, both winter and summer, Cumberland Offset may be run directly from the case or skid without further conditioning by hanging.

Comprehensive pressroom tests indicate that Cumberland Offset exhibits a minimum of stretch or shrinkage under changing atmospheric conditions. Tendencies toward curling and "cockling" are held to a minimum—even under extreme conditions of relative humidity.

Because of its flat-lying properties Cumberland Offset is a "production" sheet which may be run at maximum press speeds.

Write for free booklet—"How Will It Print by Offset"

S. D. WARREN COMPANY • 89 BROAD STREET, BOSTON

Better Paper  **Better Printing**
 Printing Papers

correct procedure for press maintenance and points out that careful attention is necessary since repair parts may become increasingly difficult to secure. Another important article in the issue describes light sensitive salts which may be used for lithographic coatings in the event that dichromates and chrome ore become unobtainable. Part 5 in the series on "The Deep-Etch Process" is included in the current issue and contains a number of laboratory-tested formulas for desensitizing etches. Copies of *Harris Impressions* are, as always, available on request.

Keller Promotes Fultone Method

Wm. J. Keller, Inc., Buffalo, has just issued a promotional folder describing its Fultone method of lithographic reproduction. Based on the company's recently discovered process for controlling tone values in making halftones, the Fultone method is said to produce illustrations with greater clarity and sharpness. Large halftone reproductions illustrate the effects obtained with the process.

Offset Bowlers in Fourth Place

Magill-Weinsheimer Co.'s annual inter-department bowling tournament reached the half-way point in Chicago last month with the team representing the offset department in fourth place, but only five games behind the top-ranking team from the art department. Eight teams of five men each are competing for the silver cup which will be awarded at the end of the tournament next May. Bud Beagle of the art department is president of the league this year and Joe Winiecki of the cylinder press-room, secretary.

Hold Graphic Arts Clinic

Linde Lines, house magazine of J. E. Linde Paper Co., New York, sponsored the fourth annual Graphic Arts Buying and Selling Clinic held at the Port Authority Building, that city, January 28, February 4 and 11. One of the highlights of the first day's session was a round table discussion on the topic, "What Does the Future Hold for the Graphic Arts?" conducted by Donald Macaulay, of S.

D. Warren Co., New York. Those participating in the conference were:

James Brewer, Brewer-Cantelmo Co.; Frank P. Carlson, Frank P. Carlson Co.; Harry Flowers, Flowers Photoengraving Co.; Stanley Styles, Martin Cantine Co.; Henry Crawford, John W. Crawford Co.; William Winship, Brett Lithographing Co.; James Moorian, Hibbert Printing Co.; and Joseph Seiler, United States Trucking Corp. Another speaker heard at that session was Janet E. Schwartz, president of Efficient Direct Mail Service, New York, who spoke on "Just Letter Shops, Are We?" The February 4th meeting featured an address by Harford Powel, Director of Promotion Defense Bonds and Stamps, Washington, D. C., on "Direct Mail Helps Sell Defense Bonds." E. A. Luedke, sales manager, Eagle Printing Ink Co., New York, discussed "Do Printing Inks Offer a War Time Problem?" and Henry Hoke, editor of *The Reporter*, conducted a round table on Direct Mail Advertising. The clinic closed with a discussion entitled "The Paper Men Speak," lead by Henry Savage, International Paper Co., New York. Members of the paper industry who participated were George Olmstead, S. D. Warren Co., Boston; John Zink, Strathmore Paper Co.; West Springfield, Mass.; John J. Sensenbrenner, Kimberly-Clark Corp., Neenah, Wis.; and Harry A. Legge, Howard Paper Co., Urbana, Ohio.

Issue Display Case Histories

Kay Displays, Inc., New York, has just issued a new portfolio of "Case Histories," which cites outstanding display successes of some of the largest national advertisers in the country. Many illustrations are included in the presentation and the material is supplemented with testimonials. A limited number of copies are available to sales executives.

A B C Gem Box: A Display of Skill in Typography published by Kurt H. Volk, Inc., New York. Price, \$3.50.

Issued as a typographic promotion piece, this portfolio is an outstanding demonstration of the possibilities of typography as a purely decorative medium. The portfolio contains twenty-six typographic medallions designed by George Hoffman, of the Volk organization. Each is composed of a letter of the alphabet and each printed in a different color combination. Each letter has been treated as a decorative device, and

the results are particularly impressive in view of the fact that they have been achieved entirely by typographic means, that is, printed directly from type. Although the idea of typography for decorative purposes is not always considered practical, the portfolio offers a convincing performance of the typographic skill of the Volk organization and should prove an extremely effective promotion piece.

Describes Ink Testing

The importance of testing raw materials which go into the manufacture of printing and lithographic inks in order to insure uniformity in the finished inks is pointed out by James J. Carney, chief chemist of Crescent Ink & Color Co., Philadelphia, in an article appearing in a recent issue of *The American Pressman*. Mr. Carney also describes in the same article the method of testing varnishes and oils for viscosity.

Honor Lee Augustine

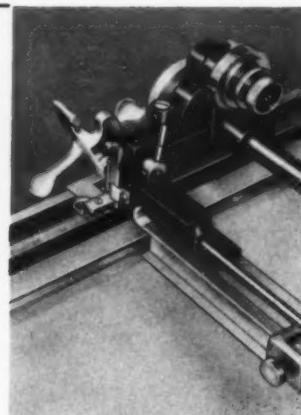
Lee Augustine, advertising manager of Printing Machinery Co., Cincinnati, was honored recently by the Junior Chamber of Commerce of Cincinnati for his work in behalf of that organization since its founding in November 1930. In a resolution citing his work, Mr. Augustine was credited with being primarily responsible for promoting and maintaining the position and prestige of the Cincinnati trade group as a leader in the state and national affairs of the Junior Chamber of Commerce.

Traces Color Nomenclature

The Color Research Laboratory of Eagle Printing Ink Co., division of General Printing Ink Corp., New York, has just issued an interesting little booklet entitled "This Colorful Language of Ours," which describes the origin of some of the phrases referring to color which are used in everyday conversation. It traces the use of the word blue as a synonym for dejection and despair back to 1550 and describes blacklist as being used by Milton in 1692. Copies of the booklet are available on request.



Craftsman Precision Photo-Lith Layout Table



PIVOT JOINT

Each straightedge has a Pivot Joint Device for changing from right angle elevated position to level. This permits the straightedge to lie flat on work up to a thickness of three-quarters of an inch. This feature is especially adaptable for layout work and stripping on glass plates, as well as for making register marks on sketches.

SPEED PLUS ACCURACY

These words are meaningless unless they can be backed up by performance. Printers, as well as other business men, demand not only a spurt of speed but a permanent "step-up" tempo all along the line. It is no idle boast when we emphatically state that a "Craftsman" will not only speed up your work but operates with the accuracy of the finest watch. This statement can be backed up by testimonials of users, who, after all, are the judge and jury.

The Craftsman Precision Photo-Lith Layout Table is designed specifically for the Photo-Lith and Offset Printer. It is the most self-contained instrument of its kind in producing in one machine the various painstaking and accurate operations preparatory to plate-making. In brief form are listed some of the features:

*

Construction—Framework is of heavy sheet steel construction reinforced and welded at vulnerable points to give rigidity.

*

Straightedge Equipment—Two geared steel straightedges are provided and positioned at perfect right angles to each other. Straightedges are equipped with a track for operation of ruling mechanism. On surface of track is a steel scale graduated to 32nds.

Vernier—May be released and set to zero at any point along the scale by loosening the large knurled wheel. The vernier can then be relocked by same wheel.

*

Pen, Pencil, Stylus Ruling Device—Each straightedge is equipped with a ruling mechanism which slides easily along track of straightedge. Four ruling elements are provided with each ruling device as follows: two stylus points, for hair line and heavier lines; one especially constructed pen and one pencil point. Another quick-acting ruling device for continuous lines is standard equipment on each straightedge.

*

Triangle—An 18" transparent triangle with bevelled graduated ruling edge is standard equipment and is used for drawing right angles to either straightedge. The triangle is invaluable for pencil layouts and eliminates shifting either straightedge.

Both Photo-Lith and Offset Tables are equipped with fluorescent lighting. These are mounted below the ground glass surface and give shadow-proof, correctly diffused lighting.

CRAFTSMAN LINE-UP TABLE CORP.
49-59 RIVER STREET—WALTHAM, MASSACHUSETTS

NEW EQUIPMENT AND BULLETINS

R. & P. Introduces "Intensol"

Roberts & Porter, Inc., of Chicago and New York, have announced "Intensol," a new plate desensitizer and ink repellent. According to R. & P., the new wetting agent, for use in the offset press fountain solution and in the darkroom, has the following characteristics: (a) it is compatible with all types of etch and is neutral, having a pH reading of 7.0; (b) it enables the pressman to operate with much less water, resulting in an increase in color strength, brilliancy and density; (c) its action as a plate desensitizer eliminates scum; (d) it will enable an increase in the number of impressions obtained from each plate. Roberts & Porter warn that the new product is not an acid and must be used in conjunction with the satisfactory or acceptable etch concentrates now commercially available. The company has just issued a folder describing the use of "Intensol" in detail and giving directions for its handling in both the plate room and dark room. Copies are available.

Announce "Del-e-tape" Ribbon

Malcolm, Inc., New York, has announced a new product called "Del-e-tape," an eradicable typewriter ribbon. The manufacturers claim that their new product is especially recommended for use in typewritten work which is to be reproduced by lithography, since "Del-e-tape" is said to be a ribbon which does not smudge, permits easy, quick and clean erasure and allows complete chemical eradication of any amount of typed matter. These advantages, it is pointed out, will mean much in repairs and upkeep on typewriting machines, the amount of work produced per day, the cost per item produced and the appearance of the work produced. The company has just issued a descriptive folder giving

prices in various lots of the new ribbon. Copies are available on request.

More About Furfuryl Alcohol

Further information regarding the use of Furfuryl Alcohol, a solvent for use in deep-etch plate-making which the Lithographic Technical Foundation announced last month, is contained in the Foundation's Supplement No. 3 to Research Bulletin No. 9. Those who would like to know more about this solvent, which is available in quantity and is not likely to be restricted, can obtain a copy of the supplement on request.

N. I. A. A. Hears Beck

Louis R. Beck, sales promotion manager of Harris-Seybold-Potter Company, of Cleveland, addressed the Youngstown chapter of the National Industrial Advertisers Association at its mid-February meeting. William S. Miller, president of

the Youngstown Chapter, introduced Mr. Beck who presented the Harris colored moving picture film showing the offset process. Mr. Beck discussed not only offset as a printing process but war and post-war markets.

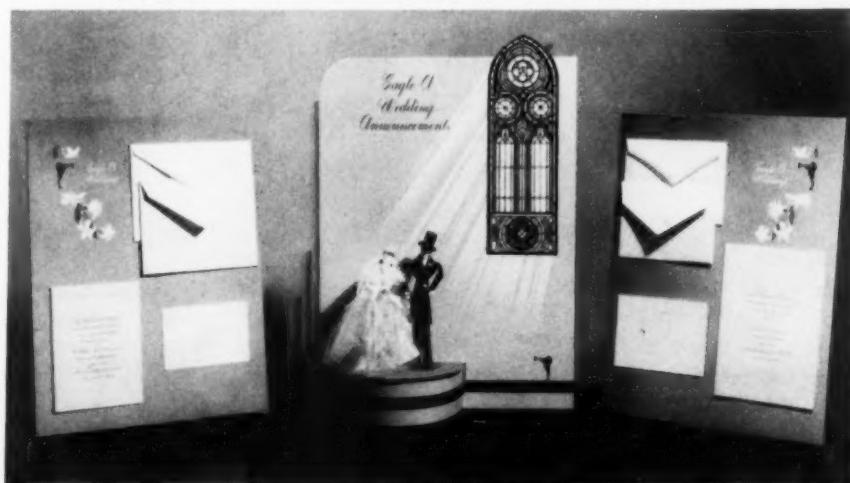
Buell Figures in Quiz Program

Harold C. Buell, general manager, American Bank Note Co., Chicago, was one of a panel of four experts selected by the Chicago Sales Executives Club to meet four representatives of the Purchasing Agents Association of Chicago in an "Information Please" program staged by the sales executives recently.

Robert E. Spiel Marries

Robert E. Spiel, vice-president of Magill-Weinsheimer Co., Chicago, was married on January 24 to Miss Marie Swift, daughter of Gustavus F. Swift, vice-chairman of Swift & Co., Chicago meat packers.

The new 1942 Eagle-A Wedding Display created by American Writing Paper Corp., Holyoke, Mass., again, as last year, features miniature figures of a bridal couple. The center panel is lithographed in a delicate blue, while the stained glass window contains a dozen different tints and tones by the silk screen process. The side panels, carrying specimen wedding announcements, are lithographed in harmony with the main panel. The display is available through members of the Eagle-A Announcement Association. Converters of Eagle-A Wedding Announcements are The Kent Paper Company, New York, and Lakeside Central Company, Chicago.



National Emergency Dictates Simplification of Paper Lines

Gilbert DISPATCH Bond and Gilbert AVALANCHE Bond

now to be known only as

GILBERT BOND

25% Cotton-Fibre-Content

This is an announcement we planned to make almost a year ago. The growing demand for GILBERT watermarked quality paper, representative of this famous fifty-year-old name, made the announcement imperative. But, the economies and restrictions of Defense did not make the new GILBERT paper announcement feasible. Now, actual wartime necessity dictates that paper lines be simplified . . . materials and labor be conserved . . . excessive operations be eliminated. That's why, as soon as present stocks of DISPATCH, AVALANCHE and ENTRY papers are exhausted, you will be supplied with GILBERT Bond and GILBERT Ledger.

As originally planned last year, the new GILBERT watermarked papers would be the best of their types that materials and skill could produce. *Today, they still will*

Gilbert DISPATCH Ledger and Gilbert ENTRY Ledger

now to be known only as

GILBERT LEDGER

25% Cotton-Fibre-Content

be the finest in their class . . . the finest 25% cotton-fibre-content papers that wartime restrictions will permit!

Concentration upon GILBERT watermarked papers in our 25% cotton-fibre-content line will permit better productive facilities . . . better efficiency in deliveries to you through simplification of stocks.

The GILBERT Bond line will be available in white and the permitted color range, with an attractive cockle finish. A laid finish will be available in white and ivory. Envelopes to match in entire line. The GILBERT Ledger line will be available in white and buff, and six colors for machine posting. Your Gilbert paper merchant will be glad to give you any further information desired regarding GILBERT Bond and GILBERT Ledger. Gilbert Paper Company, Menasha, Wisconsin.



WHAT? IT WILL DIE-CUT
2,000,000 LABELS A DAY?



**RIGHT! The PMC DIE-CUTTING MACHINE
handles up to 300,000 labels per hour!**

If you're interested in faster, lower cost label production, here is a machine that speaks your language. With this PMC "speed demon" on the job, there's no longer a bottleneck between pressroom and delivery. What's more, the PMC Die-Cutter cuts in perfect register . . . handles any type of label in sizes up to 6 $\frac{1}{4}$ " square . . . uses your present hollow dies and gives you more labels per grind . . . and can be adjusted and operated with the greatest of ease.

Write today for complete information on this important contribution to more efficient label production.

THE PRINTING MACHINERY COMPANY
436 Commercial Square • Cincinnati, Ohio

Signs Union Contract

The Chicago Lithographers Association, which was organized recently to negotiate a new contract with Local No. 4 of the Amalgamated Lithographers of America, announces that the group contract has been approved by the employers and by the members of Local No. 4, and has been signed by most of the members of the Association. The new group now has over forty members, including most of the large lithographing houses in the Chicago area. The association announces also that it has adopted a constitution and will continue to function as a permanent group. Officers recently elected are C. T. Fairbanks, Edwards & Deutsch Litho. Co., president; B. E. Callahan, Inland Lithograph Co., vice-president; R. B. Nelson, Magill-Weinsheimer Co., treasurer; and S. Kahn, Abbott Litho. Corp., secretary. The purpose of the association will be to maintain harmonious relations in the lithographic industry of the Chicago district, not only between employers and employees, but also between the industry and its customers and the general public.

Issues *Better Impressions*

Mead Corp. has just issued a new edition of *Better Impressions*, its quarterly house magazine, designed to demonstrate Mead, Dill & Collins, and Wheelwright Papers. Among the articles in the new *Better Impressions* are "Let's Not Neglect to Save Our Own Businesses" by Hubert S. Foster, a discussion of the things a business can do, in spite of no business as usual, to keep it productive; an article on the place of direct advertising in war; an attractive presentation of art for advertising with reproductions of paintings, drawings, etchings and lithographs by the group known as Associated American Artists; "Posters for National Defense" showing poster designs contributed to the Division of Information of the Office of Emergency Management by advertising agencies. Among the other features of the current issue of *Better Impressions* is a reproduction in full color of the poster urging the need for waste paper conservation which the Mead Corp. commissioned artist John Milligan to design. Copies of *Better Impressions* are available from Mead Sales Co., Dill & Collins and Wheelwright Papers, Inc.

Better Impressions is a reproduction in full color of the poster urging the need for waste paper conservation which the Mead Corp. commissioned artist John Milligan to design. Copies of *Better Impressions* are available from Mead Sales Co., Dill & Collins and Wheelwright Papers, Inc.

Conn. Lithos to Hear Wood

The guest speaker at the next regular meeting of the Connecticut Valley Litho Club, to be held in Hartford, Conn., on Friday, April 17th, will be William H. Wood, director of chemical research for Harris-Seybold-Potter Company, Cleveland. In addition to Mr. Wood's talk on "Synthetics and Their Importance Today" there will be a showing of a movie film. Large and small lithographers alike are invited to the meeting.

Du Pont Division Moves

E. I. du Pont de Nemours & Co. announce that after March 1, 1942, the executive and sales offices of the Photo Products Department will be moved from its present location, 9 Rockefeller Plaza, New York, to Wilmington, Delaware. All correspondence and orders should be addressed to E. I. du Pont de Nemours & Company, Photo Products Department, Wilmington, Delaware. The business will be administered by the same personnel as in the past.

Would Limit Billboards

Two bills designed to restrict outdoor advertising along highways went before the New York State Legislature last month. One measure would give counties and municipalities throughout the state the authority to designate any highway or part of a highway as a scenic route and to restrict or prohibit billboard advertising on this particular route. Under a second and more comprehensive measure the State Superintendent of Public Works would have the authority to regulate outdoor advertising along all public highways outside the jurisdiction of cities and villages. Further provisions of this bill

specify that no outdoor advertising could be posted without a permit, and payment of an annual fee of 1½ cents per square foot of area would be required before any advertisement could be posted. The measure would also authorize the Superintendent of Public Works to forbid any outdoor advertising in certain locations which he may specify.

New Issue of *Linde Lines*

A new edition of *Linde Lines*, published by the J. E. Linde Paper Co., New York, came off the press last month. Impressive as usual, the current *Linde Lines* contains the following list of articles for the printer and lithographer: "How to Use Fancy Papers to Make Interesting Backgrounds, Borders and Decorations," the low-down, say the editors, on how the *Ladies Home Journal* consistently comes up with a sprightly format; "For Sale—Billion Dollar Sales Force," the story behind the use of comic strips in direct advertising; "Direct Promotion, a Macy Star," an inside peek, in the words of the editors, at the direct mail goings-on at the world's largest store, Macy's. Copies are available on request.

Vari-Typer Branch in Denver

Ralph C. Coxhead Corp., New York, announces that offices for Vari-Typer sales and service has been established in the Ernest and Cranmer Building, Denver, Colorado, with E. T. Sprague as distributor. Mr. Sprague was formerly a member of the sales staff of the company's office in Washington.

N. J. Firm Wins Sorg Award

Sorg Paper Co., Middletown, Ohio, has announced that Consolidated Film Industries, of Fort Lee, N. J., have been given the Aull Award in the Sorg semi-annual contest for examples of printing on Sorg paper. The award made to Consolidated Film Industries was given for a series of scenic views made by the photo-gelatine process. The Seaman Paper Co., New York, was the merchant who supplied the paper.

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Offset Paper at Work

(from page 44)

mean that not more than two grades will be manufactured by the industry at large. It does signify that any one mill, being restricted to two grades should be able to operate at greater efficiency because he will now concentrate on the two grades he elects to make.

In the field of coated book paper the offset printer will have a choice of offset coated two sides in seven sizes and three basic weights—38 x 50—140, 160 and 200. The letterpress printer will find glossy coated book paper in these three substances and also in substance 25 x 38—60. But in dull coated paper the substances are 70, 80 and 100 pounds.

As to colors, none which were not being manufactured prior to December 1, 1941 may now be manufactured in any book papers, except that "special colors may be manufactured in quantities of at least 20,000 pounds of one basis weight if no one item in the order is for a quantity weighing less than 10,000 pounds."

THESE are the main features to be borne in mind in planning printing for some time ahead. The details are readily available, and ought to be carefully studied. It will be less practical to make use of bleed edges unless sufficient paper is needed to constitute a making order of irregular size. Even in such cases the high percentage of waste occasioned by the trimming causes a loss which under present conditions is desirable to avoid. The patriotic printer and consumer who fully understands the possibility of paper shortages will naturally wish to cooperate in every way which may contribute to economy in the consumption of paper. It has been with this end in view that the simplification program has been planned, yet with an evident desire to work a minimum of hardship.

McKenna Resigns

Norbert A. McKenna resigned last month as chief of the Pulp and

Paper Branch of the War Production Board. Mr. McKenna, who was formerly vice-president of the U. S. Plywood Corp., has headed the branch since July. His successor is reported to be David Winton, Winton Lumber Co., Minneapolis.

plant experiments. However, according to the account, the whole experiment was forgotten until recently when paper makers, having had chlorine quotas cut twice, began seeking new bleaching agents and someone remembered the findings of Mr. Carter and suggested to the Philadelphia Quartz Co. that the process be reviewed. Several large paper mills are now mixing the silicate with their regular bleaching compounds in sulphite pulp. According to reports received they are getting good results and savings in chlorine are said to run from 15% to 40%.

Boston Firm Marks 100th Year

Rand Avery-Gordon Taylor, Inc., Boston, are celebrating their 100th anniversary this year and in commemoration have just published a booklet tracing the growth of the company and contrasting economic conditions which existed in 1842 with those of 1942. Photographs included in the booklet show the site of the present home of Rand Avery-Gordon Taylor and the executive personnel of the company. The flavor of the 100th anniversary booklet may be conveyed by the following which is titled "Anyone Can Print, If That's All." "Printing is usually classified as two kinds," it begins, "one is for utility only, the other adds creative power intended to go beyond immediate practicability. A label, for example, may serve merely as a means of identification, or may be so designed that it attracts attention, arouses interest and creates sales. Actually, however, there is no type of printing to which creative power in some measure cannot be applied. With us," the book concludes, "you will find men long experienced in giving expression to advertising material . . . we are creators in printing."

Louis Traung Visits Chicago

Louis Traung, head of Stecher-Traung Lithograph Corp., visited old acquaintances in Chicago last month while on one of his periodic trips from San Francisco to the company's Rochester, N. Y. plant.

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WHEN Americans in ox-drawn covered wagons were conquering the wilderness, nearly 90 years ago, Sorg commenced its pioneering in the making of better papers. And Sorg, today, is still pioneering; yes, more actively than ever. Long experience in developing new and better papers to meet special requirements, has won for "Sorg Service" a distinct leadership in the paper industry.

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pH Simplified

(from page 32)

so forth, have a pH range between 4.5 and 5.5 and are not likely to cause this trouble. However, if you run across a condition where only a certain ink or paper stock is causing a scum or a sharpening of the image, try changing the pH value of your fountain solution. It may help.

This does not mean that if you are using a pH 3.8 solution, and you are having trouble on all of your work, that you can overcome this condition by juggling your pH values. If the trouble is persistent, look to your press adjustments or your platemaking methods.

I hope that the foregoing statements are at least somewhat clearer than the technical explanation of "The symbol pH as a shorthand term for the logarithm of the reciprocal of the hydrogen ion concentration." No wonder that any lithographer, who happened to read that statement before he found out how simple pH control really is, would be likely to drop the subject.

Highlight Halftones

(from page 35)

fluorographic solvent. The solvent is clear, does not alter the tone value of the copy when viewed in visible light and it is harmless to use. Also available are fluorographic water colors and pencils.

Opaque and show-card colors should not be used since they may contain metallic salts and other chemicals which may react unfavorably. Of course the artist must learn the fine points of this new medium particularly as applied to corrections, deletions, etc. Aside from this the artist will find the process extremely simple.

The second step is made by the cameraman and this, too, is a relatively simple procedure. The fluorographic halftone requires only an additional exposure through a fluorographic filter either before or after the normal halftone exposures. Thus the photographer retains and applies all of his old halftone experience in the making of a fluorographic negative and need

only learn the proper time interval and diameter of lens opening needed for the ultra violet exposure.

A brief explanation as to how the entire process functions is as follows: In the preparation of his copy the artist has incorporated a fluorescent material with his watercolor pigments. Thus the background of his drawing contains no fluorescent substance. In addition he has not applied any tone in his highlights. When placed before the camera and illuminated by arc light, the clear areas of the copy (highlights and background) will reflect only visible light and completely absorb ultra violet. After the completion of the normal halftone procedure, an ultra violet filter is placed on the lens and the screen is advanced far enough to be ineffective. Now all of the light reflected by the copy must pass through the filter before affecting the film. The filter, however, permits only ultraviolet light to pass through. We learned from a previous explanation that a fluorescing substance absorbs ultra violet light. Thus, the highlight and background areas of the copy reflect ultra violet light which passes through the filter and affects the film, veiling over the highlight dots to "drop" them out. The image area of the copy because of its fluorescent material content absorbs ultra violet and reflects only the visible light. This reflected visible light is in turn absorbed by the filter and does not affect the film.

The Fluorographic Process can also be used advantageously on photographs when highlighting is desired or for outlining or the imposition of diagrams and lettering. For unretouched photographs the surface of the photograph is thoroughly cleaned with any suitable print cleaner. By means of an airbrush the entire photograph is sprayed with fluorographic solvent. The areas to be highlighted are then painted in with Chinese white which has been moistened with water. This applies also to outlining, lettering, etc. If the photograph has been retouched it is not cleaned but immediately sprayed

with the solvent. When the solvent has dried the entire photograph is again sprayed—this time with any suitable artist fixative. Chinese white which has been moistened with water may now be applied for highlighting, outlining or lettering.

War and Lithography

(from page 40)

Lithographers National Association, in a bulletin announcing the A-8 rating, that this preference rating is for the use of manufacturers of stitching wire and cannot be used by lithographers to purchase stitching wire. However, the assignment of the A-8 Preference Rating to manufacturers should, for the present, the LNA bulletin adds, enable lithographers to buy their minimum requirements of stitching wire.

THE Office of Emergency Management has reduced standard defense one-sheet posters, 40 inches long and 30 inches wide, to half that size due to shortage of paper. But, points out *Printers Ink* in the news story commenting on the change, OEM notified Congressmen of the fact by inclosing a sample poster double letter size in a cardboard roll 30 inches long and weighing several ounces.

Offset Press Operation

(from page 43)

thereabouts) pH value in the water fountain solution to maintain uniformity from the start.

I feel confident that if standardization is attempted wherever possible considerable trouble and spoilage will be eliminated, helping to save many of the materials so necessary in the lithographic industry, of which we may expect there will be greater shortages.

Cahill Forms Own Firm

John J. Cahill, formerly manager of advertising sales for Western Lithograph Co., Los Angeles, has formed John J. Cahill & Consultants to handle advertising, merchandising and sales promotion. The new company is located in the Russ Building, San Francisco.

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Eclipse Black is only one of
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this company for the lithographer.

Gaetjens, Berger & Wirth, Inc.

35 York St., Gair Bldg., Brooklyn, N. Y.

538 South Clark St., Chicago, Ill.

Chemistry of Lithography

(from page 22)

specific alkalinity. When it is desired to make a very active developer and the amount of sodium carbonate is too great to be dissolved in the quantity of water allowed, a more active alkali such as sodium or potassium hydroxide may be substituted. It should be remembered, however, that this basis of equivalence exists only in respect to the alkalinity of the solution, the rate of development, etc., but has no bearing whatsoever on the entire photographic effect. Substitution of one for the other may yield the required alkaline strength, but will definitely produce variations in the characteristic curve of the particular plate or film used. Thus, although the alkalinity is equal, the various alkalies will produce images differing in density, contrast, color, etc. This does not apply to the substitution of different forms of the same chemical, such as the crystalline anhydrous and monohydrated forms of sodium carbonate. Here the difference is only in the percentage of water that the different forms contain.

The speed of development increases with the quantity of alkali used and also produces greater contrast. Although excessive quantities of any of the alkalies may make an exceedingly active developer, they may also decompose the silver salts all over, thereby producing objectionable fog. In many cases, as the quantity of the alkali in a developer increases, so does the keeping quality of the solution decrease. On the other hand, insufficient alkali may so prolong the developing action that a fog accompanied by low image density will result.

Preservative

SODIUM sulphite is the most generally used chemical to prevent the reducer from oxidizing. It has a greater affinity for oxygen than any of the developing agents. It readily oxidizes to sodium sulphate which is photographically inert and takes no part in the developing action other than to keep the gelatin from excessive swelling. Sulphite is soluble in four parts of cold water

whereas it is soluble in equal parts of hot water. There are two forms of sodium sulphite: crystals and anhydrous. The anhydrous form dissolves more readily than the crystals and one part anhydrous is equal in photographic effect to two parts of the crystals. Either form should be kept in a well-closed container. Upon standing, the crystalline sulphite readily oxidizes to the inert sodium sulphate and loses its water of crystallization. Its strength, therefore, is uncertain and its use should be avoided. Although its primary purpose in a developer is to preserve the developing agent, sulphite has other minor, but nevertheless important functions.

In high concentrations sulphite has a solvent action on the silver salts, thus separating them and decreasing the opportunity of grain clumps forming during development. This action appears to be one of dissolving and then re-precipitating the dissolved silver on the developing grains. As a result, grains of more uniform size are formed. With excessive amounts of sulphite, this solvent action may give rise to negatives with an over-all colored fog, caused, undoubtedly, by a re-precipitation of the dissolved silver over the entire surface of the emulsion. Sodium sulphite also gives to certain reducing agents the required developing properties. The sulphite in this case forms compounds with the reducing agent which have a greater developing activity than the parent substances. Sulphite also acts to prevent fogging and contributes to the blackening of the image while at the same time, it influences the color of the separated silver. Depending upon the amount, sulphite has a tendency to prevent Pyro from staining and with increasing amounts an almost stainless Pyro developer can be made. Sodium sulphite is slightly alkaline and, when an acid-developing solution is necessary, the sulphite must be replaced by one of the acid sulphites. Because of its economy, sodium bisulphite is the favorite acid sulphite. It is generally used with such developers as Pyro to provide, in addition to the preservative action, the correct degree of acidity to keep the Pyro stable.

By adding a small quantity of bisulphite to a solution of sodium sulphite, the alkalinity of the sulphite is neutralized. The resultant mixture is a neutral solution of sodium sulphite which has also found extensive application as a preservative for Pyro developers. As a general rule, sodium bisulphite is used in two-solution developers, i. e., developers in which the reducing agent and preservative are mixed in one solution, the alkali in another—the two being combined prior to use. When sodium sulphite is used as a preservative in single solution developers, it has a tendency to neutralize some of the alkali and this lessens the energy of the developer. The alkali must, therefore, be increased to overcome the loss by neutralization. In the case of a developer containing sulphite carbonate and bisulphite, the carbonate and bisulphite react to form sodium bicarbonate and sodium sulphite. Off hand, it appears foolhardy to make such a mixture since the bisulphite is converted into sulphite and a part of the alkalinity is lost by the formation of sodium bicarbonate. This action has certain advantages for the sodium bicarbonate is a restrainer and acts as an anti-fogging agent.

Potassium metabisulphite is another of the acid sulphites which is practically identical in its action to sodium bisulphite. It is slightly higher in cost and for the sake of economy, it may be replaced by sodium bisulphite. In any formula calling for potassium metabisulphite or sodium bisulphite, either one may be substituted for the other at an equal weight.

Restrainer

NUMEROUS chemicals have the ability to make the developing agent selective in its action. Among these are potassium bromide, ammonium bromide, potassium iodide, citric acid, potassium citrate and sodium bicarbonate. Potassium bromide, however, is by far the most advantageous of the restrainers. Although it has never been definitely established, it is believed the bromide forms a complex silver salt at the



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point of little or no exposure which offers greater resistance to the action of the reducing agent. In addition to restraining the action of the developing agent, bromide also retards the growth of fog. It would seem that, if the bromide can suppress the growth of fog, it also suppresses the development of the image. This it does, but experience has shown that the fog is restrained more effectively than the image. Since the fog and very low densities are suppressed more so than the higher densities, bromide also acts as a medium to increase contrast in a negative. Accordingly, the contrast potential of a developer may be increased by increasing the concentration of the bromide. The bromide will retard development and to overcome a lengthy developing time, it becomes necessary when increasing the bromide content of a developer to also increase the quantity of the alkali.

Potassium iodide has a greater restraining action than that of bromide. Whenever potassium iodide is substituted for bromide smaller quantities of iodide are used than of bromide. Because of its greater restraining power, potassium iodide is advantageous when developing old plates and films which have decomposed with age and are heavily fogged. It will overcome this fog in most cases where potassium bromide has failed. Caution must, however, be exercised despite the apparent leeway in the use of restrainers. An excess of restrainer may suppress development to such a degree that a decided loss of film or plate speed will be evident. On the other hand, insufficient restrainer may promote the development of fog. When altering the bromide content of a given developer formula, a proportionate change in the quantity of alkali should be made. It should also be remembered that in varying concentrations, the restrainer also influences the color of the developed image.

Mounting and Die Cutting

(from page 25)

and many paper products, especially standard stock shapes, are sometimes cut with heavy steel dies known as

"high dies" which are used on upright presses. High dies are made from heavy bar steel, bent, welded, filed, sharpened and hardened. The press forces the die through a lift of from one-half inch to one inch thick. A beautifully clean cut job is produced but there may be some loss in register due to imperfect jogging of the pile of sheets and shifting of the die or stock as the die is pressed through.

The high die separates or "strips" the stock from the waste, while steel rule die cutting calls for a separate stripping operation. High die cutting is not suitable for direct mail pieces or advertising cutouts which will be individually scrutinized. They are not recommended for hair-register jobs. Nor can they handle inside cuts efficiently. They cannot very well include creasing or perforating as with steel rule dies. They are far more expensive than steel rule dies but the actual cutting operation may sometimes be less expensive, especially when we consider that the high die eliminates stripping. Except for the few instances mentioned above, high die cutting is being used less and less while steel rule die cutting is being used more and more.

Steel Rule Dies

STEEL rule dies are used universally on platen, cylinder and drop head presses. In making the die the design is first drawn or traced on a plywood block about $\frac{3}{4}$ " thick. This design is then cut out on a jigsaw. The saw is set so that it cuts a swath the exact thickness necessary for a force fit on the rule which is to be inserted. The steel rule itself is a carefully and accurately manufactured strip of good quality steel. It is bevelled and honed to a keen cutting edge. This rule is bent to the desired shape and forced into the slot cut by the jigsaw. The rule protrudes about one-quarter inch above the wooden block. Cubes of sponge rubber and cork are then glued to the wood alongside the protruding rule. This rubber is for the purpose of ejecting the stock from the die, when cutting. Without it the stock

would remain stuck in the die in much the same way that a printed sheet would stick to the form in a platen press if the grippers did not pull it away. All operations of making the dies as well as the make-ready and feeding require a high degree of ability, ingenuity, skill and craftsmanship.

Steel rule dies can be made to cut, trim, crease, cut-score, perforate, punch, emboss and panel. Any number of these operations may on occasion be combined in one die either singly or as a multiple form of subjects to be performed in one impression of the press.

The dies can generally be made as soon as a sheet is available containing the key colors in final position. It is not safe to work from photostats, blue prints, tracings, or originals except for reference.

If the sheet is to be gummed, varnished or laminated the die should be made from finished treated sheets as these operations sometimes expand, stretch or shrink the sheets.

Example from actual experience:

There were 24 subjects on a sheet 25 x 38. The lithographer sent some advance sheets to the die cutter so he could prepare his die, which was rather intricate, in advance of delivery of the sheets. The lithographer insisted on paying for night work so that the die would be ready the following afternoon, and it was. The lithographer was delighted and brought up a few more sheets so the die cutter could "make ready" the job and be ready to run by the time the sheets arrived, thus getting a head start on the job. Luckily the press was not available in time. When the sheets arrived, the die cutter discovered for the first time that the sheets were receiving six one inch strips of gum across their entire length. This expanded the sheets about one-quarter inch and caused hours and hours of delay while the dies were spaced out, altered and adjusted to fit the gummed sheets, upsetting press and delivery schedules. This trouble could have been easily avoided had the lithographer advised the die cutter that the job was being gummed before the dies were started.

There's a reason!

There's a reason why the lithographer will prefer one ink to another. Both may look alike on the finished page, yet one will offer economies of increased mileage, trouble-free operation on the press, greater permanence, or other points of superiority. Sometimes that invisible difference in quality of lithographic inks is the factor with which the careful buyer is most concerned. It is the factor that has been responsible for the increasing acceptance given to inks made by Bensing Bros. & Deeney.

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*PP-20 Special Rapid Pan.	Medium speed and contrast. (H.D. 100)	"Indirect" continuous tone negatives and positives in Lithography and photogravure.
*PP-10 Soft Gradation Pan.	Fast; soft-working long delicate gradation scale. (H.D. 1200)	"Indirect" continuous tone negatives and positives and all color separation work.

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LITHOGRAPHIC ABSTRACTS

Abstracts of important current articles, patents, and books, compiled by the Research Department of the Lithographic Technical Foundation, Inc. These abstracts represent statements made by the authors of articles abstracted, and do not express the opinions of the abstractors or of the Research Department. Mimeographed lists have been prepared of (1) Periodicals Abstracted by the Department of Lithographic Research, and (2) Books of Interest to Lithographers. Either list may be obtained for six cents, or both for ten cents in coin or U. S. stamps. Address the Department of Lithographic Research, University of Cincinnati, Cincinnati, Ohio. Original articles cannot be furnished except as photostatic copies at 20 cents per page.

Photography and Color Correction

Three Important Factors in Process Photography. Raymond P. Fliller. *Lithographers' Journal*, 26, No. 10, January, 1942, p. 431. One of the principal causes of trouble in halftone photography is an improper relationship between lens aperture, screen distance, and exposure time. The causes and remedies of the following troubles are briefly discussed: (1) plugged highlights, (2) veiled highlights, (3) loss of middle tone detail, (4) shadow dot too small, and (5) unevenness.

Commercial Photography—More Things That are New. George L. Wakefield. *Process Engravers' Monthly*, 48, No. 576, December, 1941, pp. 344-5. A greatly improved method of making color separation negatives from Dufaycolour transparencies is advocated by Messrs. Dufay-Chromex Ltd. The lack of color saturation in the transparencies is due to (1) irradiation in the emulsion and (2) the wide transmissions of the filters on the "reseau." These may be partially remedied by avoiding overexposure in making the transparencies and by using narrow transmission filters in making the separations. This is only partial, however. The new improved

method is to illuminate the transparencies with three monochromatic light sources of wave-lengths corresponding to the maximum transmissions of the filters of the "reseau." The correct wave-lengths and the methods of obtaining them are described in detail.

Fluorescing Copy. J. S. Mertle. *Graphic Arts Monthly*, 14, No. 1, January, 1942, pp. 18, 20, 22, 24. Various modern processes make use of fluorescence in photomechanical reproduction. In the Marx, Fluor-a-Tone, and Chemart (not as yet introduced commercially) processes, the fluorescence is used to accomplish highlighting. In the Kodak Fluorescence Process, this property is used to effect color correction. A brief description of each process is given.

The Flexichrome Process in Metal Decorating. William N. Misuraca. *National Lithographer*, 49, No. 1, January, 1942, p. 27. Because of its extreme flexibility, the Flexichrome process is very useful as a method of color separation and color correction in producing lithographic plates for metal decorating. It is a hand process and is dependent upon the skill of the operator, but will usually give good results. A brief description of the procedure is given.

Planographic Printing Surfaces and Plate Preparation

Photo-Lithography—Zinc and Aluminum as Lithographic Surfaces. A. Haigh and H. M. Cartwright. *Process Engravers' Monthly*, 48, No. 575, November, 1941, p. 319. There are advocates for the superiority of both zinc and aluminum for lithographic plates, but zinc seems to have gained the greatest favor. Long

experience with both metals indicates that although aluminum is as sensitive to grease as zinc, it is more readily desensitized than zinc. This may be the reason for aluminum tending to work more cleanly on the press, but requiring special cleanliness and care during early operations of platemaking. A firm should choose one metal and stick to it, or they should keep separate equipment for use with each.

Photo-Lithography Cleaning and Treatment of Plates Before Graining. A. Haigh and H. M. Cartwright. *Process Engravers' Monthly*, 48, No. 576, December, 1941, p. 341. The procedure for the treatment of lithographic plates before regraining is described. With both zinc and aluminum plates, all old work should be removed by scrubbing both front and back with turpentine, pumice powder, and water, using a felt or wire scrubber. Zinc plates are then scrubbed with pumice powder and at least 10% caustic soda. After this the plate may be immersed for 2 or 3 hours in a 20% caustic soda solution. Then the plates are rinsed under running water and rapidly dried. Aluminum plates may be immersed in a solution of 1 part nitric acid and 2 parts water, if the conditions are carefully controlled.

Preparation of Zinc Lithographic Plates with Nitric Acid and Alum. G. Macdougall and J. R. Penney. *Patra Journal*, 5, No. 3, November, 1941, pp. 48-51. When zinc is treated with nitric acid-alum preparing solution (counter-etch), a strongly adherent film is formed which appears as a matt surface under the microscope. Two methods were used in an attempt to establish the composition of this film: (1) analysis of the pre-

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"Clean-O-Lith" is a recently developed chemical designed to remove images from plates without regraining. One gallon will clean about 200 plates 10 x 15. One user reports he has cleaned his plates more than 25 times without regraining. Does not harm the grain. Use your plates over and over again.

"Clean-O-Lith" will save that scarce metal and effect a real economy in regraining cost. \$12 per gallon, send your order today or write for further particulars.

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paring solution before and after reaction, (2) separation of the film from treated zinc and its subsequent analysis. It was concluded that the film on the surface of a zinc plate is a basic aluminum sulfate with the approximate composition $\text{Al}_2(\text{SO}_4)_3 \cdot 2\text{Al}_2\text{O}_3$. It may also contain basic zinc compounds.

Get That Grain! Robert W. Gail. *MODERN LITHOGRAPHY*, 10, No. 1, January, 1942, pp. 33-4, 67. A procedure is described for producing a grain which will give very long runs on work where fine halftones are not necessary. The procedure is for regraining 55 $\frac{3}{4}$ -inch albumin plates, but can be adapted to deep-etch or new plates, or to plates of smaller size.

Equipment and Materials

The Care of Rollers and Blankets. Charles F. Geese. *National Lithographer*, 49, No. 1, January, 1942, p. 48. Because of the scarcity of rubber, special care must be taken of rollers and blankets for the press. Rollers should be washed with kerosene, then with water and gasoline. If the surface has become glazed, this glaze may be removed by rubbing with a fine emery cloth. Blankets can be resurfaced if they have been damaged. Overstretching of the blanket is a common abuse that should be avoided.

Plate and Material Substitutes Mark Offset's Equipment Year. Anonymous. *Printing*, 66, No. 1, January, 1942, pp. 84, 86. This article discusses innovations in equipment and materials for lithography during the past year. The list includes substitutes for gum arabic (Hydrogum and Hydro-Fountain Etch), Litho Syn-Turps as a substitute for gum spirits, Lithomat and Photomat synthetic plates, several new types of presses, an automatic darkroom-control camera, a dusting-cleaning-viewing cabinet, the Kodagraph contact screen, a justifying typewriter, a photo-type-setting machine, and an all-graphite opaque.

Offset Press Operation. Lawrence Grennan. *MODERN LITHOGRAPHY*, 10, No. 1, January, 1942, pp. 35, 67. Greasy, tinted, horizontal streaks on an offset plate are commonly called gear streaks. If they are true gear streaks the only remedy is to replace the worn-out gears, but several other causes give a similar effect. A detailed description is given of a good procedure for checking pressure and insuring the correct setting of the plate, blanket, and impression cylinders. If this procedure is followed, the so-called "gear streaks" will be entirely eliminated in almost all cases.

Paper and Ink

Book and Job Paper Sizes and Weights. Anonymous. *The Seventh Annual Advertising and Publishing Production Yearbook*—Colton Press, New York, p. 152. This chart lists the weights per 500 sheets of standard sizes of four main classes of book papers, and bond, writing, ledger, and cover papers. Examples are given of the method of calculating the weight of paper required for a given job, and also the weight per 500 sheets of any special size not listed in the table.

What is Relative Humidity? John Stark. *Lithographers' Journal*, 26: No. 9, December, 1941, p. 385; No. 10, January, 1942, pp. 428, 431. Relative humidity is the ratio (in percentage) of the actual quantity of moisture in the air to the quantity that would saturate it under the given conditions of pressure and temperature. Paper will lose or gain moisture with change in relative humidity. Since the size of paper varies with moisture content, changes in relative humidity cause trouble in a pressroom. Air conditioning equipment or equipment for conditioning the paper helps prevent these troubles.

Static Electricity (Booklet). Committee on Static Electricity of the National Fire Protection Association. *National Fire Protection*

Association, 60 Batterymarch Street, Boston, Mass. 35 cents. This booklet is a presentation of the subject of static electricity in clear, concise, and readily understandable language. The generation of static can neither be prevented nor is it practicable to attempt to do so. Its generation is not in itself a hazard. The hazard appears when static accumulates to the extent that a spark discharge may occur. Where such a spark discharge occurs in accumulations of inflammable materials, it may cause a fire or explosion. Eliminating the static hazard, therefore, calls for preventing its accumulation rather than its generation. Humidification, grounding, and neutralizing prevents the accumulation, but in no way prevents the generation of static. Printers working with rough surfaced sheets, fast-drying inks, and rotogravure presses, and printers resorting to tinsel bars, humidification methods, open gas flames, electric neutralizers, and other means will learn much from the section devoted to printing and lithographing in the report. (*Graphic Arts Monthly*, 14, No. 1, January, 1942, p. 73.)

Offset Inks. Anonymous. *The Seventh Annual Advertising and Publishing Production Yearbook*—Colton Press, New York—p. 132. Twenty-three of the most widely used offset inks are tabulated according to color and name of pigment. Their covering power, permanence, sensitiveness to acids, alkalies, and alcohol, and special characteristics are listed.

Ink Problems and Solutions. Anonymous. *The Seventh Annual Advertising and Publishing Production Yearbook*—Colton Press, New York—pp. 126-7. Thirty-four ink problems are tabulated along with a description of the difficulty, possible causes, and suggested remedies.

The Effect of Particle Size on the Tinting Strength of Pigments. Gaylord Barrick. *Paint, Oil, and Chemical Review*, 104, No.

When the Going Gets Tough . . .



It takes a national emergency to test the courage and endurance of a people . . . but it's the every-day emergencies which crop up in the lithographic plant that provide the real test for litho inks. As the going gets tougher in the months to come, you can count on Crescent Inks to come through with flying colors on any job . . . in any emergency.

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SPECIFICATIONS

Color: Bleach White. Weights: 80, 100, 125, 150, 175, 200, 225 lbs. (24 x 36 — 500). Sizes (sheets): 24 x 36 — all basic weights; 22½ x 28½ — 100 lbs. and heavier; 20 x 26 and 26 x 40 — 100, 125, 150 lbs. only. Grain: all long grain. Jumbo Rolls: 72 inches wide. Special Rolls and Sheets: Sizes to fill trim; min. 65", max. 72". Special Finishes and Weights furnished on application.

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Our "Over Half Century of Service" is at your command and you can avail yourself of its value by just a phone call.

If you are not now using our offset inks, why not try them and be convinced of their true worth and good quality.

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1, January, 1942, pp. 7-10. This is a report of the work done on the Louisville Paint, Varnish & Lacquer Association graduate fellowship at the Chemical Engineering Department of the University of Louisville. The results of the investigation lead to the following conclusions: (1) A suitable technique for particle size separation has been developed. (2) A logical theory of the effect of particle size on the tinting strength of a pigment has been advanced and supported by the experimental work. (3) The tinting strength of molybdate orange has been found to reach a maximum at about .50 micron. (4) The tinting strength of Prussian Blue reached a maximum at about .30 micron. The general conclusion to be drawn is that tinting strength reaches a maximum at a particle size equal to the wave-length of the color of the pigment divided by the index of refraction of the surrounding medium.

General

Copy for Lithography. Anonymous. *The Seventh Annual Advertising and Publishing Production Yearbook*—Colton Press, New York—p. 198. Lithographic copy is broadly classified into (1) line and (2) halftone. A wide variety of original matter is listed under these two headings. Halftone copy is further subdivided into three divisions which require slightly different photographic technique: normal, light, and heavy halftone copy.

Announce New Wetting Agent. Anonymous. MODERN LITHOGRAPHY, 9, No. 12, December, 1941, p. 51. Wettsall Co., Boston, has announced a new product, known as Wettsall L-10, which is said to have various applications in the lithographic process. Packed in powder form, Wettsall L-10 is dissolved in water and added to aqueous working solutions, acting as a wetting, penetrating, and dispersing agent and aiding the various chemicals to function faster and more thor-

oughly. It may be used for negative developing, plate cleaning, albumen or deep-etch coatings, gum, and in the water fountain to reduce the amount of water run to plate and provide more even distribution of water. According to the company, Wettsall L-10 is non-toxic and harmless to skin, metal, or working apparatus. Price and detailed directions for use are incorporated in a new booklet which is available on request.

Miscellaneous

The Seventh Annual Advertising and Publishing Production Yearbook (Book). Leo H. Joachim, Editor. Colton Press, Inc., 468 Fourth Avenue, New York, New York, 1941. \$4.30. 468 pp. The new Production Yearbook contains much useful reference material. The book is divided into the following divisions: (1) Art and Photography, (2) Engraving and Duplicate Plates, (3) Paper and Ink, (4) Printing Processes, (5) Binding, Mailing, Shipping, Etc., (6) Production Hints, Etc., (7) Typography, Copyfitting, Etc., and (8) Catalog File and Index.

Photo-Mechanical Progress. J. S. Mertle. *The Seventh Annual Advertising and Publishing Production Yearbook*—Colton Press, Inc., New York—pp. 70, 72, 73-4, 76, 78-9. The author discusses the most important developments of the last three years in photo-engraving, color photography, offset, gravure, platemaking, and preparation of art and copy for reproduction. Complete references to articles and patents are given.

Chart of Duplication Methods. Anonymous. *The Seventh Annual Advertising and Publishing Production Yearbook*—Colton Press, New York—pp. 242-4. In this chart the method of operation, speed, maximum number of copies, relative quality, and production hints are given for the following duplication methods: stencil, flat-bed gelatin hectograph,

rotary gelatin hectograph, liquid, letterpress, offset, automatic typing, and photo-copying and allied techniques. Diagrams are given showing the operating principles of the chief duplicating methods.

Protective and Gloss Coatings. Frank Fasullo. *The Seventh Annual Advertising and Publishing Production Yearbook*—Colton Press, New York—pp. 252-3. Various types of materials are used as coatings over printed matter for protection against grease, moisture, fading, scuffing, or to impart particular qualities to the paper. The following types of coatings and the methods of applying them are described: (1) overprint gloss-press varnishes, (2) spirit varnish, (3) nitro-cellulose lacquer, (4) cyclized rubber coatings, both solution type and wax type, (5) lamination, (6) paraffine, and (7) wax-print coat. Gloss inks on a hard-sized clay-coated sheet give a gloss effect without the necessity for overprinting or applying a special coating.

New Graphic Arts Developments. Anonymous. *The Seventh Annual Advertising and Publishing Production Yearbook*—Colton Press, New York—pp. 310, 312-326. A descriptive list is given in alphabetical order of 351 products or processes developed in the past few years of interest to advertising production men, printers, and publishers.

Print Lacquering. Don D. Nibbelink. *Photo Technique*, 3, No. 12, December, 1941, pp. 34-36. The brilliance of matte prints, and the brightness range, is increased greatly by lacquering. Names of suitable lacquers, and their sources are given, and the techniques of application are described.

Visits LNA's Chicago Office

Randolph T. Ode, head of Providence Lithograph Co., Providence, R. I., visited the Chicago headquarters of The Lithographers National Association while attending a convention in that city last month.

"WHERE-TO-BUY-IT"

NOTE: This is a classified list of the companies which advertise regularly in MODERN LITHOGRAPHY. It will aid you in locating advertisements of equipment, materials or services in which you are particularly interested. Refer to the Advertiser's Index on page 73 for page numbers. *Say you saw it in Modern Lithography.*

Chemicals

Agfa Ansco
California Ink Co., Inc.
Coleman & Bell Co.
Defender Photo Supply Co.
Eastman Kodak Co.
Harris-Seybold-Potter Co.
LaMotte Chemical Products Co.
Litho Chemical & Supply Co.
Mallinckrodt Chemical Works
Merck & Co., Inc.
Norman-Willets Co.
Harold M. Pitman Co.
Senefelder Co., Inc.
J. H. & G. B. Siebold, Inc.
Sinclair and Valentine Co.

Graining and Regraining

(Zinc, Aluminum, Glass and Multilith Plates)
Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp.
Litho Plate Grainers of Detroit
Litho Plate Graining Co. of America, Inc.
Maklin Litho Plate Graining Co.
Photo Litho Plate Graining Co.
Reliable Litho Plate Graining Co.
The Senefelder Co., Inc.

Graining and Regraining Materials

The Senefelder Co., Inc.
J. H. & G. B. Siebold, Inc.

Inks—(Varnishes and Dryers)

Bensing Bros. & Deeney
California Ink Co., Inc.
Crescent Ink & Color Co. of Penna.
Martin Driscoll & Co.
Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp.
Gaetjens, Berger & Wirth, Inc.
Charles Eneu Johnson & Co.
E. J. Kelly Ink Co.
H. D. Roosen Co.
The Senefelder Co., Inc.
J. H. & G. B. Siebold, Inc.
Sinclair & Carroll Co.
Sinclair and Valentine Co.

Miscellaneous

Russell Ernest Baum (Folding Machinery)
Ben Day, Inc. (Shading Medium)
International Business Machines Corp. (Typewriters)
Johnson Stop and Indicator Co. (Drop-Out Method)
Nelson Associates (Copy Preparation for Lithographic Reproduction)
Phillips Color Laboratory (Color Separation Services)

Paper

American Writing Paper Corp.
Champion Paper and Fibre Co.
Chillicothe Paper Co.
Fox River Paper Corp.
Gilbert Paper Co.
Hammermill Paper Co.
The Mead Corp.
Neenah Paper Co.
Parsons Paper Co.
Port Huron Sulphite and Paper Co.
Rising Paper Co.

Paper—Continued

The Sorg Paper Co.
Strathmore Paper Co.
S. D. Warren Co.
West Virginia Pulp & Paper Co.
George A. Whiting Paper Co.
Whiting-Plover Paper Co.

Photo Dry Plates and Films

Agfa Ansco
California Ink Co., Inc.
G. Cramer Dry Plate Co. (Photo Dry Plates)
Defender Photo Supply Co.
Eastman Kodak Co.
Hammer Dry Plate & Film Co.
Norman-Willets Co.
Harold M. Pitman Co.

Plate Making Equipment & Supplies

Aluminum Co. of America (Aluminum Plates)
California Ink Co., Inc. (Zinc and Aluminum Plates)
Clean-O-Lith Co. (Plate Cleaner)
Craftsman Line-Up Table Corp. (Line-Up and Register Table)
Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp. (Zinc and Aluminum Plates)
C. P. Goerz American Optical Co. (Lenses)
LaMotte Chemical Products Co. (pH Control Apparatus)
Litho Equipment & Supply Co. (Cameras)
Litho Plate Cleaning Co. (Plate Cleaner)
National Carbon Co., Inc. (Carbons)
Norman-Willets Co. (Cameras, Lenses, etc.)
Harold M. Pitman Co. (Cameras, Vacuum Frames, Whirlers etc.)
Rutherford Machinery Co., Div. General Printing Ink Corp. (Cameras, Photo-Composing Machines)
The Senefelder Co., Inc. (Aluminum Plates, Litho Stones, etc.)
Union Carbide and Carbon Corp. (Carbons)
W. A. Taylor & Co. (pH Control Apparatus)

Plate Making Services

Graphic Arts Corp.
Offset Fine Arts, Inc.

Pressroom Equipment & Supplies

Sam'l Bingham's Son Mfg. Co. (Rollers)
Christensen Machine Co. (Bronzers)
Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp. (Flannel)
Godfrey Roller Co. (Dampening Rollers)
Harris-Seybold-Potter Co. (Presses)
Ideal Roller & Mfg. Co. (Rollers)
International Press Cleaners & Mfg. Co. (Press Cleaner)
Kimbie Electric Co. (Motors)
LaMotte Chemical Products Co. (pH Control Apparatus)
Litho Equipment & Supply Co. (Proving Presses)
Miehle Printing Press & Mfg. Co. (Presses)
Printing Machinery Company (Pressroom Machinery)
Rapid Roller Co. (Rollers and Blankets)
The Rathbun & Bird Co., Inc. (Machinists)
Roberts & Porter, Inc. (Rollers and Blankets)
Rutherford Machinery Co., Div. General Printing Ink Corp. (Proof and Test Presses)
The Senefelder Co., Inc. (Blankets, Molleton, etc.)
J. H. & G. B. Siebold, Inc. (Rollers, Blankets and Molleton)
Sinclair and Valentine Co. (Blankets)
W. A. Taylor & Co., (pH Control for Fountain Solutions)
Vulcan Proofing Co. (Rollers and Blankets)

CLASSIFIED

All classified advertisements will be charged for at the rate of ten cents per word, \$2.00 minimum, except those of individuals seeking employment, where the rate is five cents per word, \$1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of Modern Lithography, 254 W. 31st St., New York. **Closing date: 1st of month.**

Try Before You Buy!

Guaranteed Process Lenses at pre-war prices. 13-inch F:8 Cooke Process, Series V in barrel \$99.50; 15-inch F:9 Precision Process in barrel \$74.50; 18-inch F:9 Kollmorgen in barrel \$94.50; 25-inch F:8 Cooke Series V in barrel \$199.50. 10-day trial allowed. Many others—write for list. Burke & James, Inc., 223 W. Madison Street, Chicago.

Wanted:

An experienced cameraman and platemaker. Address Box #771.

For Sale:

Complete varnisher 25 ft. Camelback Gas Dryer oven, 12 ft. Electric Drying oven extension, 25 ft. cooling conveyor. Cross feeder and Chambers Bros. varnish applicator. Will be available in April or May. Price \$4,000 on our floor. Crocker Union Plant, 735 Harrison Street, San Francisco, Calif.

For Sale:

Webendorfer Offset Press, 17 x 22, three years old. Sound running condition. Can be seen on our premises. Northam Warren Corp., Stamford, Conn. Direct inquiries to Mr. D. B. Hills.

Situation Wanted:

Young man, 3-A draft classification, experienced as department foreman and assistant superintendent in large plant. Capable of handling quality work from camera to finished press plate, desires connection with progressive concern

as working foreman or in an entirely supervisory capacity. Address Box #772.

Situation Wanted:

Offset pressman, 20 years of experience, wants permanent connection, Harris Presses. Am 38 years of age. Reliable. Address Box #774.

Offset Pressman Available:

Experienced better grade of color work. Best of references. Prefer location in Metropolitan New York area. Address Box #773.

Announces Contest Rules

A. R. McCandlish, president of McCandlish Lithograph Corp., Philadelphia, last month announced the releasing of the rules covering the "McCandlish Awards for 1942." The customary cash prizes of \$500 for first prize, \$300 for second prize, \$150 for third prize and \$50 for fourth prize will be awarded, and, in addition, Honorable Mention Certificates will be given this year to all entries selected for this honor.

McCandlish Awards are given for the best original 24-sheet poster designs created for advertising G-E Mazda Lamps, Hellman's Mayonnaise, Swan Soap and a local beer brewed in the contestant's own territory. A contest folder, giving all details of the contest, will be sent to all who write to McCandlish Lithograph Corp.

Revise Paper Making Book

Reinhold Publishing Corp., New York, has just issued a new edition of "Modern Pulp and Paper Making" by G. S. Witham, Sr. Since the publication of the first edition of the book in 1920, there have been many changes in the industry in America. For one thing, as the author points out, the entire Southern paper industry has come into being. The author has, therefore, tried to make the new edition up-to-date, but has not deleted

descriptions of older equipment and processes which appeared in the first edition. The chapters have been completely rearranged in a more logical grouping and to save space the appendix of tables included in the first edition has been omitted in this, since, as the author has pointed out, data of this kind are now to be found in much more up-to-date form in the annual issues of "Paper and Pulp Mill Catalogue" published in Chicago. "Modern Pulp and Paper Making" is priced at \$6.75.

Hold Clinic on War Problems

Edward N. Mayer, Jr., James Gray, Inc., New York, served as chairman of a clinic on selling, advertising and promotion problems at a war-time emergency conference sponsored by the Mail Advertising Service Association held in St. Louis last month. Among the subjects discussed under the chairmanship of Mr. Mayer were: getting business from new sources to supplant orders lost because of defense contracts; new kinds of business from old sources; advertising to non-defense businesses; the position of the salesman in the emergency and how he can sell a satisfactory volume. These subjects were discussed in open forum. Following Mr. Mayer's clinic, a forum discussion was held on plant management problems under the chairmanship of Ray Martin, Albany Publicity Service, Albany, N. Y. Among the subjects discussed at this clinic were: personnel training and replacement; labor relations; shop practices to reduce costs; and procurement and technical problems.

Explains Type Anatomy

American Type Founders Corp., Elizabeth, N. J., has just issued an alphabetical list of terms used to describe a piece of type. It has been prepared by Gerry Powell, typographic director of the company. Such terms as Alignment, Body, Counter, Face, Feet, etc., are explained and illustrated by means of an anatomical chart which accompanies the list.

LaMOTTE pH CONTROL METHODS IN THE PLATE AND PRESS ROOMS



LaMOTTE BLOCK COMPARATOR

This compact unit for determining pH of solutions is complete with pH color standards—indicator solutions—marked test tubes and instruction booklet.

Illustrated folder sent on request

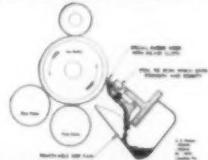
LaMOTTE pH Service offers simple and economical pH apparatus, indicator solutions etc., for use in determining the pH of fountain solutions, etc.

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INTERNATIONAL PRESS CLEANERS

are daily demonstrating their efficiency in increasing Output and Lowering Production Costs



This Is Our Method of Removing Ink From Press

We invite you to take advantage of our thirty day trial offer. If interested write and let us know the size and make of your press.

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New York • Philadelphia • St. Louis
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IN BUSINESS SINCE 1898

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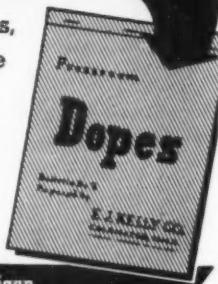
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Make sure of getting all three by letting us handle your next graining job. A trial order will convince you.

SPECIAL FACILITIES FOR MULTILITH PLATES

LITHO PLATE GRAINERS of DETROIT, Inc.
1241 TENTH ST. DETROIT, MICH.

A Complete Graining Service for the Trade

ZINC and ALUMINUM PLATES UNGRAINED—GRAINED—REGRAINED

grained correctly to your specifications
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SHEETS for ROTAPRINT Machines,
also square edge plates for
Multilith Presses.

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Color process plates, black and
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color plates, line and halftone
negatives or positives for machine
transfer, or photo-composed press
plates, albumen or deep etch.
WRITE • WIRE • PHONE

Graphic Arts Corporation
TOLEDO • OHIO

Govt. Using More Lithography

Chicago offset plants are beginning to show results from the announcement made some time ago by Public Printer A. E. Giegenack, that increased use will be made of lithographed material in the national defense effort. Presses in eight or more establishments have been busy lately on government orders, while ink makers, paper houses and other suppliers are being benefitted in proportion. Three lithographing plants were handling a re-order for 68 million defense savings stamp books, scheduled for delivery by mid-March. I.S. Berlin Printing & Lithographing Co., which had previously completed two orders for the same book, obtained the contract for 41,000,000 copies on the latest re-order, while the balance of this new job was split between Regensteiner Corp. and Excelsior Printing Co. Awards were made on competitive bids. For the Berlin company's part of the order 800,000 pounds or twenty carloads, of paper and five tons of stitching wire were required according to H. A. Gerlach, vice-president of the company.

Newman-Rudolph Lithographing Co., Magill-Weinsheimer Co., American Decalcomania Corp., and the Wallace Press have been producing posters for various governmental agencies, including OPM and army and navy recruiting services. Cuneo Press handled an order for an undisclosed quantity of sugar rationing coupon books, a job which other concerns throughout the nation likewise shared. Chicago lithographers are preparing also for an anticipated call for bids for paper targets, used in sharpshooting practice on training camp rifle ranges. Three orders for 80 million such targets were executed by twenty-two Chicago letterpress printers last year and, as new troops go to camp, a demand for more targets is expected. This work, the lithographers feel can be done as well and more economically by offset. If adequate notice is given, they are confident they can get a large portion of this business.

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Tale Ends



"Swamped or not swamped, the boss says that we just gotter keep on agoin'."

... swamped?

SWAMPED with orders? Who isn't? But the day will come when instead of orders coming to you faster than you want them, you will have to go after them as you did in days of yore. And, with that in mind, why give your trade a chance to forget you? Why not keep looking ahead to the future?

It is a mighty good bet that your firm, your products and your brand names will never be forgotten in the lithographic field if you continue to advertise regularly in

MODERN LITHOGRAPHY
254 WEST 31st STREET NEW YORK

OUT in St. Louis the ink manufacturers and the paper jobbers are telling the lithographers they can't have their ink and paper delivered just any old time. In order to conserve their tires they are restricting deliveries. The paper jobbers say no "special" deliveries other than on their regular deliveries and no deliveries at all on "hot shots." The ink makers are limiting their deliveries to two a day, and on orders received after 2 P. M., if the order is big enough, they are going to use Parcel Post. On all "specials" there will be a minimum charge of 55c. 'S fair enough. Never seemed like there was any sense at any time in a lithographer expecting a delivery of a 4 oz. tube of ink just like that. After all Macy's won't deliver a spool of thread.

* * *

Have you seen that "Full Color" advertisement Stecher-Traung is currently using in advertising trade papers? The one with the reproduction of the Defense Bond poster? It's a beaut. Look it up if you want to see an example of a striking ad.

* * *

We note an interesting little item in *Printers' Ink* of the other week entitled "Advertising Women Cogitate on Their Post War Status." We were going to pass it up, not knowing what cogitate means or what the devil is a post war status, supposing it was some blame fool thing women are now using to keep their figgers now that lastex has all the laz gone out of it, when we espied this little mote: "Most of them (women) stand on the conviction that fitness for a job depends not on sex but on individual merit." Brother, that ain't how we heard it!

MODERN LITHOGRAPHY



WIDE LATITUDE

THE wider the latitude of the film you use, the better for you, provided other characteristics are not sacrificed.

All Agfa Ansco Reprolith Films have unusually wide latitude — enabling you to obtain uniform negatives from varying types of copy where the ideal exposure cannot always be determined with accuracy.

But they also give you the advantages of extremely high contrast and great resolving power plus a dependable uniformity which is the result of the technical skill and knowledge gained through a hundred years of experience.

You cannot buy a better film for your work than Agfa Ansco Reprolith! Get some soon. It comes in Regular, Thin Base, Ortho and Pan types. *Graphic Film Division, Agfa Ansco, Binghamton, New York.*

100 YEARS OF AMERICAN PHOTOGRAPHY

Agfa Ansco Reprolith Films

MADE IN U. S. A.

Unprecedented Demands

War is overshadowing everything in our lives. Printers' markets are changing to conform to its needs. Our country is under the stress of heavy demands—some foreseen and others unforeseen; government, war industries and civilian business requirements—all must be met to maintain the progress of war effort and other needs.

Quantity, quality, time—all elements of paramount importance—are factors of varying weight that will affect printing production. Unusual demands may strike any printing plant, in any locality, at any time. The graphic arts must meet these demands to fulfill its duty.

The printing industry should be alert—in both personnel and equipment. Preventive maintenance of presses is a practical contribution to the alertness necessary in our industry. The Harris service organization is available to assist plant managements in their efforts to maintain equipment at maximum efficiency.

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